

Report on CORCON 2013 – Corrosion Conference and Expo 30 September – 3 October 2013

Every year corrosion researchers, scientists, academics, and professionals attend the CORCON conference and expo in India to deliberate and learn the latest on corrosion control system design, technology application and asset maintenance to prevent corrosion failures and losses. More than 700 people attended CORCON 2013, the 21st annual conference and expo held on September 30 to October 3 at the Lalit Hotel in New Delhi. Organized by the NACE International Gateway India Section (NIGIS), the event featured plenary lectures from leading corrosion experts, symposia on 14 topics with over 26 sessions, a poster presentation of technical papers, and six Technical Interactive Forums (TIFs). Speakers from industry and academia presented a total of 156 keynote, invited, and contributory talks covering contemporary issues, developments, technology and innovative practices.

Praful Patel, honourable minister of Heavy Industries and Public Enterprises in the Government of India, gave the inaugural speech at the conference. In his address, he said, "Corrosion is something we all recognize, but some do not want to acknowledge or take action on it. Corrosion affects the environment and even human lives if not taken care of, especially in sectors like marine, refineries and automobiles. There are many corrosion mitigating materials available now that were not available in earlier times. Research and development activities play a vital role in developing new technologies and it should be a continuous endeavour on the part of the industry to adopt better corrosion control and mitigation measures in order to save huge direct and indirect corrosion-related expenditures."

NACE President Tushar Jhaveri, said, "There is a lot of new infrastructure being developed all around the world. It is essential that corrosion prevention measures are considered right at the planning stage itself. The cost of corrosion is as high as 3% of a country's GDP. In some countries like ours, it could be as high as 4 to 5% of the GDP. Unfortunately, corrosion prevention is not given the attention it requires, except in high-risk areas like oil and gas pipelines, nuclear power, thermal power etc." He continued, "I anticipate continued growth and progress in our industry as we encourage new developments in

corrosion control, support important initiatives, expand our global presence and increase awareness about the critical need for corrosion control systems in every country and industry. Participation in NACE activities has been increasing significantly through the years. The importance of our mission to protect people, assets, and the environment from the effects of corrosion is also very critical to our industry and country as a whole. We need to convince all stakeholders, including our government, that controlling corrosion not only saves money, but also saves lives."

B. Narayan, Group President of Reliance Industries, urged that corrosion must be fought on a war footing. He further said that war destroys, disease destroys, and corrosion destroys. Therefore, corrosion must be taken seriously, more so in India where awareness is lacking as compared to other advanced countries.

During his address, NACE Director and CORCON Chairman Samir Degan said, CORCON 2013 has received overwhelming response from a large number of eminent specialists across industry, R&D, and academia addressing such diverse topics as corrosion in refinery, petrochemical, chemical, and fertilizer industries; power plants and utilities; military and aerospace systems; marine and offshore systems; concrete corrosion; coatings and linings; cathodic and anodic protection; materials and composites; internal corrosion of pipelines; residual life assessment in industries; and others. This conference will spread awareness about the menace of corrosion and the delegates will find the experience very rewarding."

The CORCON 2013 Expo had 65 booths including a USA pavilion with several new participants. Delegates Australia, China, Denmark, Japan, Switzerland, the United Kingdom, and the United States also attended the conference and expo.

Every year, the NIGIS Corrosion Awareness Awards are presented at CORCON to honour and respect individuals and institutions for their contributions to corrosion awareness and developments in the field of corrosion science and technology in India, and to commemorate the Corrosion Awareness Day that has been

held since 1995. The section has so far honoured 90 scientists, teachers, engineers, and professionals; 33 students; and 20 public and private sector laboratories. In 2013, these awards were presented to the following individuals:

- Excellence in Corrosion Science and Technology award for an individual involved in research and education: Mumtaz Ahmad Quraishi, IIT (BHU), Varanasi
- Excellence in Corrosion Science and Technology award for a person working in the oil and gas sector: S.K. Srivastava, IEOT, ONGC, Navi Mumbai
- Distinction in Corrosion Science & Technology award for a person working in an industrial organization: Ashish Khera, Allied Engineers, New Delhi
- Distinction in Corrosion Science and Technology award for a person involved in research and education: M. Kiran Kumar, BARC, Mumbai
- Meritorious Contribution award for a person involved in research and development:

R Venkatesan, National Institute of Ocean Technology, Chennai

- Meritorious Contribution award for a person working in an industrial organization: P M Fansa, Consultant, Vadodara
- NIGIS Award for Excellent Laboratory to Welspun Corp Ltd., Mumbai

The receipts of Student Award for the Ph.D. and M Tech degrees completed in 2012- 2013 were Geogy Jiju Abraham, IIT Bombay, Mumbai and Mohammad Umar Farooq Khan, IIT Bombay, Mumbai respectively.

The Lifetime Achievement Award for a distinguished senior citizen for his contributions to the activities for the growth and development of NACE International and NIGIS, corrosion science and technology, and corrosion awareness in India was presented to Dr. Baldev Raj, who served as the Director of the Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam.

On the last day, 3rd October, best technical oral and poster papers, best stalls at the expo were honoured and winners of these awards were :

Technical Sessions	Paper and Author
Cathodic Protection	AC & DC Interference and Mitigation measures taken in East West Gas Pipeline of RGTIL Alok Gurtu & Venkateshwara Reddy, RGTIL, Navi Mumbai
Coatings & Linings	Use of Atlas cell test methodology to test selective linings for high temperature crude oil storage. Surojit B Mukherjee, Akzo Nobel, United Kingdom
Corrosion in Military & Aerospace Systems	Correlation studies between the surface hierarchy of super hydrophobic surfaces and mechanical properties of PU based composite materials for ship hull applications Comd B. Sabarish, DIAT, Pune
Corrosion in Refineries, Petrochemicals, Chemicals and Fertiliser Industries	Corrosion Threats to Refineries and Some Good Practices to Mitigate Them S K Bagchi, Oil Industry Safety Directorate, Noida
	Failure analysis of a Crude Column Overhead Exchanger Akhil Jaithlya, Mahendra Kumar Rastogi & Narendra Pandey, BORL, Bina
Internal Corrosion of Pipeline	Internal Corrosion in Cross Country Crude Oil Pipelines Sanal S, Mohamed Babu M A & Arun K Soman, BPCL-Kochi Refinery, Kochi
Marine and Offshore Corrosion	Thermal Spray Aluminum Coating for Splash Zone D. Nage, Larsen & Toubro, Mumbai

Technical Sessions	Paper and Author
Materials & Composites	Challenging Repairs completed to pipelines using composite sleeves James Knights, Clock Spring Company, Great Britain
Microbial Corrosion and Inhibitors	Biodegradable Acid Corrosion Inhibitor for Filter Cake Removal System Garima Misra, Halliburton, Pune
Power Plants and Utilities	The oxidation behavior of aluminum coated T-91 alloy steel in high temperature steam. K B Gaonkar, K Singh, Sunil Kumar B, Vivekan and Kain, B Paul and N Krishnamurthy, BARC, Mumbai
Reinforced Concrete	Assessment of Chloride Induced Corrosion of Steel in Concrete Using Half-Cell Potential and Resistivity Methods Bhaskar Sangoju, B H Bharatkumar, CSIR-SERC, Chennai and Ravindra Gettu, IIT Madras, Chennai
Research in Progress	An environment friendly coating for Galvanised Steel Akshya Kumar Guin, Manish Bhadu, Kedar Bhawe & Mohua Sinhababu, Tata Steel Ltd, Jamshedpur
Residual Life Assessment	Fitness for Service Assessment of a Multilayered Hydrogen Storage Bullet with Defects Satya Pal Singh, Sova Bhattacharya, Kannan C, Brijesh Kumar, Rajagopal S & Malhotra R K, IOCL, Faridabad
Student Session	Pitting and exfoliation corrosion of retrogressed and re-aged AA7085 sheet Ajay Krishnan, & V S Raja, IIT Bombay, Riya Agrawal, VNIT, Nagpur and A K Mukhopadhyay, DMRL, Hyderabad

The following posters were awarded :

Winner	High temperature corrosion behaviour of Cr ₃ C ₂ -NiCr coating in molten salt environment under cyclic condition at 900 °C Deepa Mudgal, Surendra Singh & Satya Prakash, IIT Roorkee
1 st Runner up	Electrochemical Impedance Study of High Nitrogen, Nickel and Manganese free Austenitic Stainless Steel in Artificial Physiological Solutions S.B. Arya, NITK Surathkal and V S Raja & A N Tiwari, IIT Bombay
2 nd Runner up	Evaluation of Corrosion Resistance of Weathering and Carbon Steel Exposed in Industrial-Marine-Urban Environment P Dhaiveegan, N Rajendran, Anna University, N Elangovan, A M Jain College and T Nishimura, NIMS, Japan

The following exhibition stalls were adjudged as best in various categories:

12 Sqm – Winner	Winoa Abrasives India Private Ltd.
12 Sqm – Runner	Tinker & Rasor
9 Sqm – Winner	Hi-Temp Coatings Technology
9 Sqm – Runner	Denso GmbH

CORCON 2014 will be held in Hotel Hyatt, Santacruz (E), Mumbai, India, November 12 to 15, 2014.

Glimpses of CORCON 2013



Honourable Minister Shri Praful Patel lighting the lamp to inaugurate the conference.



John McCaslin from the U.S. Department of Commercial Services cuts the ceremonial ribbon to the USA pavilion in the exhibition hall



Dr. Samir Degan, Chairman CORCON & NIGIS, addressing the delegates during his inaugural address



R D Goyal, Director (Projects) Gail (India) Ltd. visiting the exhibition premises of the conference.



Dignitaries in the Dias releasing the CORCON 2013 Technical Proceeding



Delegates during the inauguration session

Glimpses of CORCON 2013



CORCON dignitaries, NACE International directors, and staff pose at the podium



Panel Members during Technical Interactive Forum: Regulations and Standards in Pipelines



Neil G. Thompson, Det Norske Veritas (USA), Inc., USA delivering Keynote talk



NACE President Tushar Jhaveri (right) presents the Lifetime Achievement Award for 2013 to Baldev Raj on behalf of NIGIS



Cultural programme during the conference



Certificates for best paper awards being presented by Dr. Samir Degan during valedictory function