



10th INTERNATIONAL CONFERENCE-EXHIBITION «PROBLEMS OF CORROSION AND ANTICORROSION PROTECTION OF STRUCTURAL MATERIALS. CORROSION-2010»

10th International Conference-Exhibition «Problems of corrosion and anticorrosion protection of structural materials. Corrosion-2010» took place in Lvov in June 8–11, 2010. It was dedicated to 100th birth anniversary of academician H.V. Karpenko, one of the founders of physicochemical mechanics of the materials that is a research direction appeared in the first half of XX century at the turn of mechanics of materials, solid-state physics and chemistry of surface effects.

The problem of corrosion and anticorrosion protection of metal structures and their welded joints is relevant for many branches of industry of Ukraine, including building, transport, machine building, gas-and-oil producing industry, mining, power, metallurgical, chemical and food manufacturing areas.

The annual loss of industry of the developed countries due to corrosion is estimated in 4–5 % of the gross domestic product. At that, more than 15 % of this sum could be saved using known progressive anticorrosion methods of protection. Therefore, protection and reduction of metal loss due to corrosion acquire particularly large importance, especially, in connection with an increase of consumption of different types of metal products in industry and agriculture.

The International Conference-Exhibitions on problems of corrosion and anticorrosion protection in Lvov, became traditional, are brought to familiarize a wide range of specialists with the new theoretical and practical developments in this field of science, current methods for increase of corrosion resistance of different application metal structures as well as establish closer research-production and commercial connections between Ukrainian and foreign specialists. The conference-exhibitions are organized by Ukrainian Association of Corrosion Specialists at the head of its president Prof. V.I. Pokhmursky, Corresponding Member of the NAS of Ukraine. At present time the Association has been joining around 50 research institutions, organizations and enterprises and more 100 individual members.

The representatives of research institutions, commercial companies and industrial enterprises from Germany, Australia, Russia, Ukraine, Poland, Mexico, Kazakhstan, Lithuania, Belarus and other countries participated in work of the jubilee conference-exhibition that is the evidence of its relevance and increasing authority.

The Conference was opened by Prof. V.I. Pokhmursky which represented plenary paper «Role of academician H.V. Karpenko in development of investigations of stress corrosion fracture of metals».

The main questions, touched on the Conference, are fundamental aspects of corrosion and stress corrosion fracture; problems of hydrogen and gas corrosion; new tendencies in development of corrosion-resistant materials and creation with their help of gas-thermal, galvanic and other coatings; modern directions of development of inhibitor, biocide and electrochemical protection; research methods and corrosion control; corrosion and environmental problems; problems of training of corrosion specialists; ways of implementation of the latest methods of anticorrosion protection of equipment for oil-and-gas industry, power and chemical equipment.

The representatives of commercial enterprises paid particular interest to papers of applied character describing the problems of monitoring of metal structures, including gas, oil and water pipelines and their welded joints, electrochemical protection and protective coatings (lecturers: R. Dzhalá, V. Chervatyuk, M. Khoma — H.V. Karpenko PMI of the NASU; S. Polyakov — E.O. Paton Electric Welding Institute of the NASU; Yu. Gerasimenko, G. Vasiliev — NTUU «Kiev Polytechnic Institute»; I. Reformat-skaya — FSUE «L.Ya. Karpov Research Physicochemical Institute» etc.).



Opening of Jubilee Conference-Exhibition. *From the left:* Prof. V.I. Pokhmursky, Corresponding Member of the NASU; *from the right:* V.V. Panasyuk, director of the H.V. Karpenko Physico-Mechanical Institute of the NASU



The PWI Corrosion laboratory represents the Institute on Conference «CORROSION-2010»

Manufacturing companies directly working in area of metal fund protection from corrosion took part in the exhibition: STC H.V. Karpenko PMI of the NASU, SE Engineering Center «Techno-resurs» of the NASU, SE Engineering Center «Lvovantikor» of PMI of the NASU, DE NORA DEUTCHLAND GmbH (Germany), «ZINGA METAL and K» Ltd., «Tech Engineering» Ltd., OJSC «Zaporozhie Plant of Electrical Equipment» etc. A delegation of young scientists under leadership of Prof. S.G. Polyakov presented the E.O. Paton Electric Welding Institute. Themes of presentations and poster papers of representatives of the PWI were relevant applied developments in area of monitoring of man-caused media (soils, subsoil-waters, cooling liquids) with application of electrochemical methods of investigations such as method of

polarization resistance, method of polarization curves and electrochemical noises, which are already used on enterprises of oil-and-gas complex, OJSC «Ukrghidroenergo» and municipal engineering. A development of Corrosion laboratory of the PWI took an important place in exhibition exposition. It was a system of corrosion monitoring of pipelines (SCMP) TU U 33.2-30019801-001:2006 designed for determination of level of protection of pipeline in length and in time according to DSTU 4219; rate of corrosion of pipeline metal from outside; places of protective coating damage; rate of residual corrosion of pipeline metal in a defect of protective coating; current of hydrogen diffusion through wall of pipeline metal; corrosivity of soil in places of pipeline positioning; corrosivity of product being transported; electrochemical potentials: polarization, corrosion, total with ohmic component, transverse and longitudinal gradient of potentials along the whole pipeline length as well as their change in time; presence of roaming currents.

SCMP is certified by the «Ukrmetrteststandart» of Ukraine as a mean of measuring equipment that is uncommon for such class of devices measuring instantaneous rate of metal corrosion.

The problems of terminology in area of corrosion protection, development of normative documents in this sphere which would be harmonized with international standards were discussed at final meeting of the Conference.

*Prof. S.G. Polyakov,
Ing. S.A. Osadchuk, PWI*

L.M. LOBANOV IS 70



Professor Lobanov Leonid Mikhajlovich, Dr. of Tech. Sci., academician of the NAS of Ukraine, the honoured worker of science and technology of Ukraine, laureate of Prize of the USSR Council of Ministers, State

Ukrainian Prize, Paton Prize of the NAS of Ukraine, famous scientist in the field of materials science and strength of materials and structures, celebrated his 70th anniversary in September.

Lobanov L.M. graduated from the faculty of industrial and civil building of Kiev Civil Engineering Institute and mechanical-mathematical faculty of Kiev State University. Since 1963 he is working at the E.O. Paton Electric Welding Institute of the NAS of Ukraine, since 1985 — Deputy Director on research work and Chief of Department of optimization of welded structures of new engineering at the Institute.

Scientific activity of L.M. Lobanov is connected with investigations of behavior of materials in welding, development of experimental methods of investigations and control of welding stresses and strains, fabrication of high-efficient welded structures and development of methods and means of their diagnostics.

His works, devoted to development of methods of optic modeling, holographic interferometry, electron