

Preface

This volume contains a collection of papers from International Conference „Wear Processes 2012” which were held in Świnoujście, Poland, from 12 to 14 of September 2012. The Conference is organized periodically and is a continuation of the seminars series concerning “*Testing and modelling of complex wear processes*”, that are organized since 2003. The Initiator of the Conference is Jarosław Chmiel, PhD. Eng. from Maritime University of Szczecin.

The aim of the Conference is a creating a forum of information exchange for researchers dealing with issues of wear phenomena caused by more as one process acting on a material simultaneously, the subject somewhat neglected at most conferences focusing on wear problems.

The main topics of the Conference are as follows:

- fundamental problems of deterioration and wear of materials.
- simple and complex deterioration processes.
- hydrogen degradation of materials.
- wear processes accelerated by the hydrogen degradation and corrosion.
- modeling of wear processes.
- causes of abnormally rapid of wear.

Since 2010, the Conference is held under the auspices of the European Structural Integrity Society, Technical Committee TC10 “Environmentally Assisted Cracking”.

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Professor Alexander Balitskii – The 60th Anniversary of Birthday



Professor Alexander Balitskii was born on 14 November 1954 in Lviv, Ukraine

1961-1971: studies at Secondary Modern School and decorated by Gold Medal.

1971-1976: studies at Physical Department of Lviv National University.

From 2006: professor in the field of material science, chief of department of hydrogen resistance of materials at the Karpenko Physico-Mechanical Institute, National Academy of Sciences of Ukraine.

Research Interests

Current research topics are focused on structural integrity and structural collapse, environmental and construction risks design and verification of RC and steel structures, degradation of civil structures, high strengthened and corrosion and hydrogen resistant metals and protective coatings. In these areas is in charge of several national and international research projects and fellowships. The major concern of research is concerned on extending the life time and safety of metal components (FPP, NPP turbine - turbogenerators, etc.) as well as participating in sustainable technologies to protect the environment. Experience high-tech enterprises.

International Research Cooperation

- ✓ **2001:** ABB Corporate Research Center, Milan, Italy.
- ✓ **2000:** Technical University of Gdansk, Department of Materials Science and Engineering, Institute of Physical Chemistry of the Polish Academy of Science, Department of Electrochemistry and Corrosion,
- ✓ **1996-1998:** Institute of Metallurgy, ETH Zurich, Switzerland,
- ✓ Participation in the international conferences (with plenary lectures and oral presentations) in Belgium, Bulgaria, Canada, Germany, Greece, Czech Republic, Finland, Italy, Hungary, Poland, Russia, Switzerland, Sweden, Ukraine.

Main Scientific Achievement and Awards

- ✓ **In 2010** by decision of President of Poland was decorated by title of professor in the field of technical science.
- ✓ **In 2000:** Alessandro Volta Awards (Fondazione Cariplo, Landau Network, Lombardia, Italy).
- ✓ **In 1998** the Institute of Metallurgy at Swiss Federal Institute of Technology ETH Zurich presents its Medal of Honour to dr. Alexander Balitskii for his great achievements in the science of fracture mechanics.
- ✓ Member of International Society of Electrochemistry (ISE), European Structural Integrity Society (ESIS), European Federation of Corrosion, International Congress on Fracture (ICF, 2005, 2009 as voting member).

Work Experience

- ✓ **Since 1996:** lecturer and adviser of post graduate students at the Karpenko Physico-Mechanical Institute.
- ✓ **Since 2010:** full professor at the West-Pomeranian Technological University of Szczecin.
- ✓ **Since 2014:** part-time professor at the Lutsk National Technical University.
- ✓ **Since 2005:** lecturer at the Europeans summer school of fatigue and fracture and Polish-German-Ukrainian Summer School of Fracture Mechanics. Educational activities: courses at the surface engineering, material science, chemical heat treatment, bases of fracture mechanics, cold working treatment, ageing of materials for nuclear, hydrogen and forcible energetic, medical material science and biocompatible electronics.
- ✓ **2001–2004:** part-time professor at the National University “Lvivska Politekhnika”.
- ✓ **2002-2007:** Professor at the Technical University of Szczecin, Institute of Materials Engineering.
- ✓ **2007-2008 and 2012:** - visiting professor at the Maritime University of Szczecin.

Publications

More than 330 scientific publications including 2 monographs, 2 handbooks, 70 articles in cited journals, 20 patents.

Reviewer of various associations and international publications in on-line, open access journal in the fields of fracture and solid mechanics and in structural and material engineering, as the International Journal of Fracture, Engineering Fracture Mechanics, Materials Science, Welding Technology Review, Maintenance Problems, Mechanical Fatigue of Metals, Tribology International, Materials Chemistry and Physics, Advances in Mechanical Engineering.

We wish You, Prof. A. Balitskii, further success in private and professional life

*The Scientific and the Organizing Committee
of the Conference “Wear Processes”*