72nd SUGA ACADEMIC SEMINAR : WEATHERING

2nd SWTF WEB SEMINAR : WEATHERING
PROGRAM 2021

TIME	**Date: December 1, 2021 (Wed) by live-streaming**
10:30	**Opening of the web seminar**
10:30 – 10:35	Introduction by **Shigeo Suga**, Director-General, Suga Weathering Technology Foundation
[1] 10:40 – 11:15	**Enhancement of PC steel structure reliability through improvement and widespread use of advanced exposure testing technology and hydrogen embrittlement evaluation method** **Mikiyuki Ichiba** Chief Researcher , Tokyo Electric Power Company Holdings, Inc.
[2] 11:20 – 11:55	**Corrosion behavior of each part of steel model structure** **Hideki Katayama** Deputy Director, Research Center for Structural Materials, National Institute for Materials Science
	Lunch
[3] 13:15 – 13:50	**Effects of snow on atmospheric corrosion behavior of metals in snowy regions** **Masatoshi Sakairi** Assoc. Prof., Dr. Eng., Hokkaido University
[4] 13:55 – 14:30	**Various weathering tests using xenon lamps and their conditions** **Hideo Kita** Weathering Light Research Committee, Suga Weathering Technology Foundation
	Break
[5] 14:45 – 15:35	**Problems and research trends on microplastics** **Shinichi Kuroda** Prof., Graduate School of Science and Technology, Gunma University
[6] 15:40 – 16:30	**Cost of Corrosion in Japan** **Tadashi Shinohara** Chairperson of Committee on Cost of Corrosion in Japan
16:30	**Closing of the web seminar**

[1] Mikiyuki Ichiba

Utility poles represent familiar social infrastructure widely used. This study examined hydrogen embrittlement of the high-strength steel tendons for PC utility poles. An original exposure testing technology was established for utility poles and also an accelerated hydrogen embrittlement test was standardized for steel tendons by clarifying the reaction mechanism of hydrogen embrittlement that has been unclear for many years. The standardized accelerated testing procedure has been adopted in electric power equipment standards and is used in quality control for high-strength steel materials. It contributes to improvement of electric power equipment reliability and public safety.

[2] Hideki Katayama

Corrosion behavior of each part of the steel model structure exposed to outdoors was investigated by an electrochemical impedance method. Wetting conditions and corrosion rates at each part changed in response to changes in environmental factors. A comparison of corrosion loss at each part gave that the corrosion loss at horizontal part is larger than that at the vertical part. Moreover, the flange part tended to have a more severe corrosive environment than the roof part.

[3] Masatoshi Sakairi

Corrosion rate of metals depends on the temperature, therefore, it is expected to slow in snowy and cold region. The metal corrosion in snowy region may be faster than expected based on temperature, because of fallen snow can form thin salt solution layer on the metal for long time. In this lecture, recent results of effect of snow on corrosion of metals in snowy regions and chemical analysis results of snowfall will be presented.

[4] Hideo Kita

Products used indoors and / or outdoors are degraded by various environmental factors, including solar radiation. Therefore, weathering testing is important for development and quality control. The weathering test shall be done a suitable test method simulated the environment in which the product is used actually, and even the test using a xenon lamp has various standards and different conditions.ISO4892-2 used widely in many industries is revised as published the Amd for filter subdivision. In this study, I will explain the filters and test conditions for test methods using xenon lamps, including the latest revised standards.

[5] Shinichi Kuroda

Plastic is a useful material that is indispensable in our daily lives. However, it is estimated that more than several million tons of plastic waste are discharged into the oceans worldwide every year, and this is an important and urgent problem that is being examined internationally. In this presentation, I will review the trends in research related to microplastics, after summarizing the current status and problems in each of the three areas: estimation of the amount of outflow, actual conditions of transport and accumulation, and impact on ecosystems.

[6] Tadashi Shinohara

A corrosion cost survey in Japan in FY 2015 was conducted, and compared with those conducted in 1974 and 1997. Surveys in three economic situations are the first attempts in the words. The total amount of corrosion costs in this survey (2015) were 4.3 trillion yen by Uhlig method and 6.6 trillion yen by Hoar method, which were 0.78% and 1.27% of GNI, respectively. “Corrosion Cost Performance” increased from previous survey (1997) to this survey (2015) by using “New Technologies,” while the total amount of “Cost of Corrosion” in 2015 is almost same to that in 1997.