

63th (Tokyo), 64th (Osaka)
**SUGA ACADEMIC SEMINAR: WEATHERING
PROGRAM 2016**

TIME	Tokyo (63th) Date: November 2, 2016 (Wed) Location: Arcadia Ichigaya	Osaka (64th) Date: November 9, 2016 (Wed) Location: Osaka International Convention Center
10:00 – 10:10	Introduction by Shigeo Suga , board chairman	
[1] 10:10 – 11:00	Compilation of global atmospheric corrosion rate data (3.Indoor atmospheric corrosion) Yuichi Ishikawa , Suga Weathering Technology Foundation, Corrosion Study Group	
[2] 11:05 – 11:50	Deterioration of Reinforced Concrete Structures in Gunkan-island and its future overview Keiichi Imamoto , Tokyo University of Science, Department of Architecture, Professor	
11:50 – 12:55	Lunch	
[3] 12:55 – 13:30	Investigation on Building Materials of the Former National Olympic Stadium in Kasumigaoka, Tokyo Keiichi Imamoto , Tokyo University of Science, Department of Architecture, Professor	
[4] 13:35 – 14:25	Material degradation and Evaluations of Polymeric Materials in Space Environment Kazuyuki Mori , Japan Aerospace Exploration Agency, Research and Development Directorate, Research Unit , Researcher	
[5] 14:30 – 15:30	Establishing Standards-Based Performance Requirements for Installed Radiation Detection Instrumentation in Non-Weather Protected Locations Peter Chiaro , Chairman (IEC SC45B), Convener (IEC TC104, Maintenance Teams 16 and 19) Oak Ridge National Laboratory, Technical Testing and Analysis, Program Manager	
[6] 15:35 – 16:25	Corrosion mechanism analysis in the highly corrosive environment of the anti-corrosion materials for the vehicle and accelerate test Yuko Kajiyama , TOYOTA MOTOR CORPORATION, Anti-corrosion Engineering Dept, Organic Material Engineering Div., Assistant Manager	
[7] 16:30 – 17:00	The research of correlation between outdoor exposure tests and accelerated corrosion tests Shin Watanabe , Suga Weathering Technology Foundation, Weathering Light Study Group	
17:10 – 19:10	Social gathering	

Yuichi Ishikawa

Published indoor atmospheric corrosion rate data for carbon steel, zinc, copper, silver, nickel and tin were compiled and listed in the table together with environmental parameters. Several interesting observations can be made from the perspective of log normal probability plots of corrosion rate data as a function of the cumulative percentages of measurement. The compiled corrosion rate data are also compared with corresponding outdoor corrosion rate data.

Keiichi Imamoto

[Part 1] Reinforced concrete structures at Hashima (Gunkan Island) including the first multi-family dwelling of Japan have been components of the World Heritage on 2015. Values of these buildings, which are now un-occupied, will be discussed from viewpoints of architectural science.

[Part 2] The National Olympic Stadium of Tokyo has been demolished on 2015 which aged 50 years. One of the main features of this building was the use of blast-furnace slag cement concrete onto its structural components. Author will discuss the real life of this building from the viewpoint of construction materials.

Kazuyuki Mori

It is known that materials used in space can be damaged due to such a severe space environment, e.g., vacuum, radiation, ultraviolet rays, thermal cycle, atomic oxygen, etc. Material engineers have made a lot of efforts to understand such damages and how to protect the materials from the environment. Much evaluation has been performed both on the ground and in orbit. In this presentation, some cases of changes occurring on materials which are caused by the space environment will be introduced. Then, examples of results obtained in ground evaluations and in space experiments are also presented.

Peter Chiaro

In order to detect the illicit transportation of controlled nuclear materials, detection systems were developed and installed throughout the world. Most of these installations are made at national and international borders in locations where no weather protection is provided or available. International standards, primarily out of the International Electrotechnical Commission, were developed and have been implemented in order to increase the reliability of these systems and to establish a performance baseline including how they function under the many different environmental conditions that exist across the globe. Although the functional technology has matured, more has been learned over the extent of weathering that takes place over many years. Susceptibilities have been indicated that may greatly reduce a systems' ability to perform as expected. This possible reduction in capability may not be readily apparent which can therefore increase the possibility of illicit material being undetected during transport. This reduction in capability appears to be the result of less than robust environmental performance requirements that become enhanced due to weathering effects on the internal components of the system. This talk will provide background as to the selection of environmental performance requirements, provide an overview of previous and ongoing testing, describe the effects that have been identified, provide an overview of planned tests to fully understand the internal climate that may exist within a systems' enclosure, and changes that are taking place to the applicable IEC standards to increase the reliability of each system.

Yuko Kajiyama

As the global automobile market grows, an increasing number of cars are used in areas where there is a highly corrosive environment. Decorative chromium plating for automobile exterior coatings is used on parts of the vehicle that are important with regard to the strong impact that they have on brand image and design properties. For this reason, improving anti-corrosiveness and maintaining a high quality appearance is critical. A study was carried out to explore the causes of the chromium corrosion that specifically occurs in Russia, and the corrosion mechanism analysis of the chromium plating was determined. And we report about accelerate test using the salt and mud.

Shin Watanabe

The Weathering Light Study Group of the Suga Weathering Technology Foundation has tested coated steel plates at outdoor exposure sites in Shinjuku-ku/Tokyo and Okinawa, along with performing various accelerated corrosion tests, in order to study the correlation between accelerated corrosion tests and outdoor exposure tests. We report new knowledge gained from the study.