

Agenda for On-line Workshop on Materials Service Performance in Nuclear Power Plant (MSPNP2020)-Multiscale Characterization

Oct. 20, 2020

Shanghai University (SHU), Shanghai, China

8:25-8:30

Welcome address, Prof. Siyi GONG, Vice president, SHU.

8:30 – 9:15

Mechanistic Interpretation of Crack Tip Synergism – How to improve a predictive capability of Environmentally Assisted Cracking in NPPs. Plenary talk by Prof. Tetsuo SHOJI, Tohoku University.

9:15 – 10:00

Application of nanopillar compression tests for evaluation of thermal ageing of austenitic stainless steel welds. Plenary talk by Prof. Changuei JANG, KAIST

10:00 – 10:30.

First principles study on stress-strain behavior of zirconium alloy oxide film. Yaoping XIE, SHU.

10:30 – 11:00

The effects of chloride ion concentration on the pitting behavior of 309L cladding by using micro-electrochemical measurement and in situ optical observation. Invited talk by Associate Prof. Jian XU, Sun Yat-Sen University

11:00. – 11:30

Influence of H permeation on cyclic alteration of surface oxide of Ni-based alloy in high-temperature water environment. Invited talk by Zihao WANG, Tohoku University.

11:30 -13:00

Lunch time

13:00-13: 30

Low Cycle Fatigue Behaviors of CLAM Steel with a Gradient Nano-structured Surface Layer. Invited talk by Yanyun ZHAO, Chinese Academy of Sciences.

13:30-14: 00

Effects of grain boundary characters on the carbide precipitation in Inconel Alloy 600. Hui LI,

SHU.

14:00-14: 30

Effect of thermal ageing on the corrosion behaviors of austenitic stainless steel welds in the simulated PWR primary water. Invited talk by Junjie CHEN, KAIST.

14: 30-15: 00

Effect of welding dilution on PWSCC behavior of 52M in dissimilar metal weld joint. Jiarong MA, SHU.

15:00-16:00

A multi-technique approach to better understand environmental degradation in nuclear power plants. Plenary talk by Sergio Lozano-Perez

16:00-16:30,

Tea break

16:30 - 17: 00

Corrosion behavior of stainless steels in simulated PWR primary water: The effect of composition and matrix phases. Invited talk by Qian XIAO, KAIST.

17: 00 - 17: 30

Cracking Incidents, Relevant Research and Integrity Evaluation of Ni-based Alloy Dissimilar Metal Welds. Invited talk, by Prof. Gaungfu LI, Shanghai Research Institute of Materials

17:30 – 18:00

Understanding the mechanisms controlling long-term stress corrosion cracking of Alloy 690 through advanced characterization. Invited talk by Zhao SHEN, University of Oxford.

18:00 -18:30

Characterization of deuterium distributions in corroded zirconium alloys using high-resolution SIMS imaging. Invited talk by Junliang LIU, University of Oxford.