

# Frontiers of Concrete Technology

The Concrete Committee of the Japan Society of Civil Engineers (JSCE) holds a webinar on the frontiers in concrete research and technology to share and discuss the cutting-edge technologies of concrete materials and structures. We invite two leading researchers from the advanced field in concrete engineering. After their presentations, we discuss the field's current status and future direction.

Photo: Onahama Marine Bridge, JSCE Tanaka Award (2017)

## Aging Management of Concrete Structures in Nuclear Power Plants - Internal swelling reaction of concrete -

### Invited researchers



**Dr. Ippei Maruyama**

Professor  
Graduate School of Environmental Studies  
Nagoya University  
Japan



**Dr. Miguel Ferreira**

Senior Scientist  
Structural Materials group,  
VTT Technical Research Centre of Finland Ltd.  
Finland

### Moderator



**Dr. Kenichiro Nakarai**  
Professor, Hiroshima University, Japan

Date: August 4<sup>th</sup> 2021 Time: 16:00-18:00 (JST/UTC+9:00)

Admission fee: **Free**

zoom

Registration: <https://form.run/@2nd-JSCE-Concrete-Committee-Webinar>

※ After registration, you will receive an e-mail with the URL (Zoom) of the webinar.



Inquiry: Concrete Committee, Japan Society of Civil Engineers (JSCE), Dr. Hayato Takahashi e-mail: hayato\_takahashi@rs.tus.ac.jp

# 2<sup>nd</sup> JSCE Concrete Committee Webinar

# Frontiers of Concrete Technology

## Aging Management of Concrete Structures in Nuclear Power Plants (NPPs)

Date & Time: August 4<sup>th</sup>, 16:00-18:00 (JST/UTC+9:00)

- 16:00-16:05 Introduction of FCT and Invited researchers
- 16:05-16:35 Overview of management of concrete structures in NPPs
- 16:35-17:05 Presentation by Dr. Miguel Ferreira
- 17:05-17:35 Presentation by Dr. Ippei Maruyama
- 17:35-18:00 Panel Discussion coordinated by Dr. Kenichiro Nakarai

## Dr. Ippei Maruyama



2019-present Professor, The University of Tokyo, Japan  
2016-present Professor, Nagoya University, Japan  
2005-2016 Associate Professor, Nagoya University, Japan

Dr. Ippei Maruyama is a Professor of Graduate School of Environmental Studies at Nagoya University and a Professor of Graduate School of Engineering at the University of Tokyo (cross-appointment), Japan. He is a materials scientist and concrete engineer whose main research interests concern advancing understanding of the relationships between microstructure, chemistry and properties of cementitious materials and performance of concrete structures.

He is currently a lead researcher of several national projects, namely, 1) Soundness evaluation of concrete structures exposing to neutron and gamma-ray irradiation, 2) Enhancement of soundness evaluation procedures of concrete structures in NPP using data of harvested materials from decommissioning plants, 3) Evaluation of concrete contamination of radio-active materials in Fukushima-daiichi plants, and 4) Impacts of drying on cement-based materials from atomic scale to structural scale. He is an editor in chief of the Journal of Advanced Concrete Technology published from Japan Concrete Institute.

## Dr. Miguel Ferreira



2011-present Senior Scientist, VTT Technical Research Centre of Finland Ltd., Finland  
1998-2011 Assistant Professor, University of Minho, Portugal

Dr. Miguel Ferreira mainly studies on providing innovative solutions developed under a R&D environment to address concrete issues aiming at the lowering the carbon footprint of concrete and contributing to a more sustainable construction practice. His research interests cover concrete deterioration mechanisms and their synergetic effects, service life engineering including design, in situ assessment, life-cycle analysis, and ageing management systems for concrete infrastructure.

Recent interests include nuclear power plant ageing management of concrete structures, and non-destructive evaluation of reinforced concrete. He is the Coordinator of the European Commission funded research project - ACES (Towards improved assessment of safety performance for long-term operation of nuclear civil engineering structures, 2020-2024) and The Finnish Research Programme on Nuclear Power Plant Safety SAFIR 2022 research project CONAGE (Critical studies in support of the ageing management of NPP concrete infrastructure, 2018-2022).