



京都大学

Installation period :

April 1, 2024 – Mar 31, 2027

Participating Companies:Idemitsu Kosan Co.,Ltd.
TAISEI ROTEC CORPORATION**Cooperative Research Organization:**

RIKEN SPring-8 center



Overview

While deteriorating infrastructure becomes a major social issue, great progress has been made in recent years in monitoring for infrastructure management, and in mechanical and statistical models of deterioration phenomena. However, very few research cases or practical knowledge have been accumulated regarding the occurrence of deterioration phenomena and their mechanisms at the physical property level.

On the other hand, advances in material science using large-scale synchrotron radiation facilities (SPring-8) and supercomputers have enabled the development of microscopic 3D images into numerical analysis models, fracture path analysis by local displacement field measurements, and 4D meta-modeling. Through observation, analysis and modeling, it is now possible to implement new materials and innovations into the infrastructure field.

Of course, in order to promote social implementation of innovation and overseas export, it is necessary to consider an internationalization strategy for public procurement rules, including standards and standards related to physical properties.

In this course, we will conduct practical research on innovation for each infrastructure material, from the development of new materials to the specification of performance, and we will also implement the results of innovation across infrastructure in the field of international public procurement. In order to achieve this goal, we will also conduct research on business models for collaboration between industry, government, and academia. Primarily, we will focus on pavement as an infrastructure material, but in the future we will develop practical research on infrastructure materials across the board and contribute to the creation of a new academic field called "Infrastructure Physical Property" and its social implementation.

Members

**Takashi YAMAMOTO Professor****Specialized Fields**

Maintenance of Infrastructure, Construction Materials, Concrete Engineering

**Yosuke HIGO Professor****Specialized Fields**

Geo-disaster Prevention, Geotechnical Engineering

**Akira SEO Professor****Specialized Fields**

Polymers, Composite Materials and Properties

**Kiyoshi KOBAYASHI Distinguished Professor****Specialized Fields**

Planning / Management

**Osamu FUJIKI Adjunct Professor****Specialized Fields**

Asset Management, Policy for International Standardization, Environmental and Sanitary Engineering

**Junji NISHIDA Adjunct Professor****Specialized Fields**

Traffic Management, Information System / IoT, Business Creation, Community Design, Smart City