

Yoshida Award: Research Achievement Category

Life-cycle Management of Port and Coastal Concrete Structures



Hiroshi Yokota

Coastal Development Institute of Technology

Hiroshi Yokota's research interest is the long-term performance assessment and maintenance of concrete structures in ports and coastal areas. His work has contributed to the development of concrete technologies for the marine environment. Specifically, he is a pioneer in recognizing the significance of life-cycle management (LCM) of structures and has promoted and led research to establish the LCM system, which organically combines durability design, inspection and evaluation, performance assessment and prediction, and interventions, into a maintenance process. His research achievements include assessment of structural performance based probability theory, evaluation of repair priority based on Markov model predictions of performance degradation, assessment and evaluation of performance based on crack width and depth, and a strategy for application of LCM to coastal structures. Aside from work on the basics of the LCM system, he has suggested possibility of developing life-cycle scenario assessments based on sustainability indices. Mr. Yokota has also actively worked to expand the availability of maintenance schemes based on LCM to real structures and verified their effectiveness, while also being committed to outreach work such as efforts to standardize these technologies. His achievements are widely utilized both domestically and internationally, as evidenced by their inclusion in the JSCE Standard Specifications, maintenance manuals for port and coastal structures, ISO 22040 (LCM for concrete structures) and others.

For the above reasons, Mr. Yokota is recognized as having made a significant contribution to progress and development in concrete engineering technology and is a worthy recipient of the Yoshida Award in the Research Achievement Category.