

Yoshida Award: Research Achievement Category

Junichiro Niwa

Tokyo Institute of Technology

Research into the Shear Load Resistance Mechanisms and Improving Performance of Reinforced Concrete Structures

Reason for the Award

Technology to accurately predict the shear load capacity of members is necessary for the safe and economical design of reinforced concrete structures. Earthquakes frequently occur in Japan, so there is a strong demand for minimization of seismic damage to infrastructure and rapid and economical restoration and recovery of the activities of society. The recipient of this award has been engaged on this issue for a long period of time, conducting research to develop and improve methods for predicting and evaluating the shear load resistance performance of reinforced concrete structures. The results of his research were adopted into the 1986 edition of the JSCE Standard Specifications for Concrete Structures, and this has greatly contributed to ensuring the safety of infrastructure in Japan today. Thereafter he continued his research improving the accuracy of the shear load resistance capacity calculation equations and expanding their range of application, which has contributed to realizing safer and more economical concrete structures. Also, he has vigorously researched the application of new materials such as fiber reinforced concrete, etc., to structural members, developing next-generation structural members with improved durability as well as load resistance performance, and this has contributed to the construction of a sustainable society. He has been appointed chairperson of various committees, including the Concrete Committee, and, currently he is chairperson of the Sub-committee on the Revision of the Standard Specifications for Concrete Structures, so he has a leading position in concrete engineering in Japan. For the above reasons the recipient is recognized as having made significant achievements in the progress and development of concrete engineering technology and is recognized as being a worthy recipient of the Yoshida Award in the Research Achievement Category.