

Japanese Traditional Wooden Buildings to Resist Earthquake

There are many kinds of wooden buildings in Japan, for example houses, schools, shrines, temples and so on. Japan is the earthquake country and so engineers must design new buildings that can withstand the seismic forces. However, traditional buildings have existed for centuries though they are built based on the experiences and skills of carpenters. Are they really earthquake-proof or not? It is not clear how they can resist earthquakes. It is exciting to tackle such questions from an engineering point of view.

Matsuda Lab

In the Future



Masashiro Matsuda
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The University of Tokyo
Dr.Eng. (2006)
Wood construction,
Structural capacity of
Japanese traditional
wood buildings.

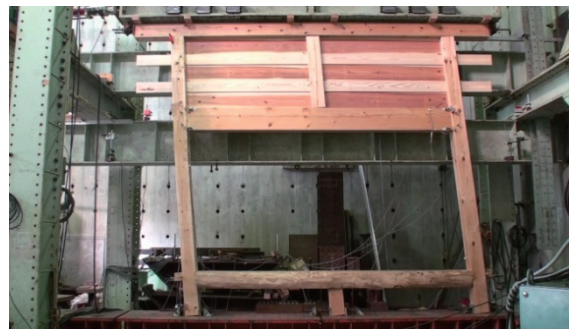
The traditional buildings such as folk houses, shrines, and temples are our cultural heritages and are alive even now. Our research will clarify what must be done to protect these beautiful traditional wooden buildings from earthquakes, to preserve them, and even to design new ones. This is an important subject for the future of Japan.

After Graduation

By understanding the basic building structures and doing research on wood construction, you will be able to work actively in the fields of preservation of traditional buildings and the structural design of wooden buildings.



Monitoring the seismic behavior of this traditional farmhouse with a thatched roof by strong motion accelerographs.



Static loading test of the wood frame of traditional construction houses in the Gassho style of Shirakawa-go.

Theory and Practice of Spatial Design

About the design related to living space such as architecture and furniture, we are working from both sides of theory and practice. In the former, to study the relationship between discourses by architects, for example, the theories of tradition by architects in Showa period, and their design works, in the latter, to practice of residential design and furniture design, participate in the design competition, we are exploring new possibilities of spatial design.

Hato Lab

In the Future



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In the field of space creation, there is a variety of cases to approach the design activity. For example, an architect Seiichi Shirai spent a half day practicing calligraphy in his later years, and he said that it has also affected his architectural works. Unique perspective will develop the meaning and the role of spatial design.

After Graduation

The graduates are expected success in fields related to space design such as architectural offices and design office.



Concept model produced in the process of residential design. It is trans-scale object, which can be used as furniture.



Seiichi Shirai Exhibition review article on "Confort" (2011.2) including the topic of practicing calligraphy.