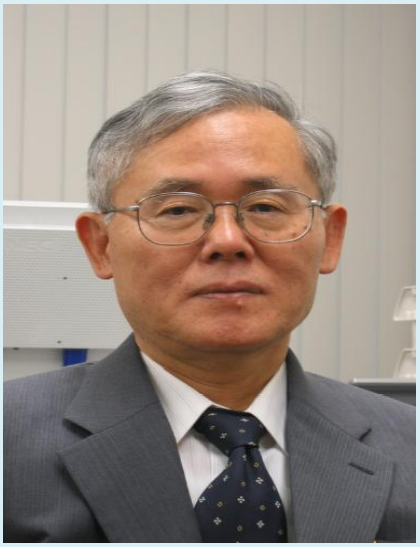
# TIEMS International Pool Teacher & Trainer Biography




**Name:** *Yukio Fujinawa*

**Position:** *Chairman*

**Organization:** *Risk Management Assocations, Japan*

**Date of Birth:** *21.05.1941*

**Nationality:** *Japanese*

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**Biography:**

Yukio Fujinawa started his work in the disaster mitigation from 1965 as Researcher, National Research Center for Disaster Prevention (NRCDP). He received a Dr. Science degree in 1976 from Department of Physics, Faculty of Science, University of Tokyo focusing on generation and development of wind waves based on field observation data. As the chief of the First Research Laboratory of Coastal Disaster Prevention, he investigated tsunami deformation and amplification in the shallow part of sea by means of multi-point measurements of ocean long wave and surf beats.

In 1975 he lead the team for the earthquake disaster mitigation as Chief Researcher of Crustal Deformation Research Laboratory of NRCDP. He engaged in the prediction research of the great earthquake through observational approach by developing the pop-up type ocean bottom seismometers. In 1987 he became Visiting Researcher to make collaborative researches with other research institutes. In 1990 as a director of the Special researcher he engaged in the seismo-tectonics using Magnetotelluric and seismic data, in synthetic aperture radar image for detecting ground surface deformation related with earthquake, volcanic eruption and climate changes.

He was the disaster seminar of JICA, Japan for about 20 years. In 2000 he started the R/D for the earthquake early warning (EEW) system. After leaving NRCDP in 2003 he participated in the national EEW project to develop application systems for disaster mitigation as CEO of the (NPO) Real-time Earthquake Information Consortium (REIC). He was a special lecture of International Institute of Seismology and Earthquake Engineering, Building Research Institute four for years. Currently he is a chairman of the Risk Management Associations to develop the high accurate disaster mitigation system for EEW, Tsunami Early Waning (TEW) and earthquake prediction system. And he is senior adviser of the TIEMS Japan Chapter to promote the technology transfer of EEW and TEW systems as well as international standardization of EEW.

He has been worked nearly 50 years for research and development for disaster mitigation, especially in the disaster mitigation information of earthquake and volcanic eruption. He is very eager to transfer knowledge and experience for helping people to save themselves and make their community more resilient against earthquakes and volcanic eruptions by using several tools including those invented by himself.

# TIEMS International Education Program Course

**Teacher & Trainer:** ***Yukio Fujinawa***

**Title of Course:** **Practical Course of Earthquake and Tsunamis Early Warning**

## Course content:

This course presents technology and experiences of the earthquake and tsunamis early warning as an advanced course. The course presents the topic in the realm of total scheme to make the countries more resilient using early warning. Review the method, usefulness, limits, shortcoming, and future development on the basis of practical experiences.

**Topics Include**:

- To address the importance of the development of science and technology to make society make more resilient
- History of development of earthquake and tsunamis early warning system
- A review of earthquake and tsunamis early warning system including central analysis and utilization system,
- To describe practical systems to understand what is the problem and shortfalls causing insufficient performance.
- Describing analytical algorithms and dissemination mechanisms of the early warning as well as the message of both systems.
- Evaluating system performance of the earthquake early warning system since 2007 including those at 3.11, and of the tsunami warning system in more than 20 years
- To present responses of people and automatic control system to major earthquakes and to huge tsunamis.
- Presenting of changes of the warning system based on the recent experiences in Japan to update the earthquake and tsunamis early warning systems by government and NGOs,
- To disseminate nationwide the application system for school to strengthen disaster mitigation education

**Objectives:**

- To learn that there are prominent examples of usefulness in the early warning system,
- To understand direct, indirect merits and demerits in utilization in the earthquake and tsunamis early warning based on simulation and experiences,
- To learn limits of the warning intrinsic to adopted system, their negative effects, and how to improve them to increase performance
- To know total practical scheme of the warning system depending on the development stage of infrastructure in community.
- To understand the societal preparation to build and utilize the warning system effectively based on real experiences in Japan
- To learn importance of education and training to use appropriately, and existence of indirect positive merits to education in case of real triggering instead of planned triggering.
- To learn that there are more advanced utilization by applying to automatic control for shut down the gas or electric apparatus, and important facility as atomic plants, IT factories.
- To learn there are several developments of research for the next generation of earthquake and tsunamis early warning.
- To learn there are practical progress to make the short-term earthquake prediction possible for increasing lead time substantially to improvement of one of shortcoming of the system.