

IASPEI- activities, history and Japan' s contribution

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IASPEI (International Association of Seismology and Physics of the Earth' s Interior) is one of the eight associations of IUGG, and promotes the study of earthquakes and other seismic sources, the propagation of seismic waves, and the Earth's internal structure, properties, and processes. IASPEI has seven commissions on seismological observation and interpretation, on tectonophysics and crustal structure, on earthquake generation process - physics, modelling, and monitoring for forecast, on earth structure and geodynamics, on earthquake hazard, risk and strong ground motion, on earthquake source mechanics, and on education and outreach. Besides these topical commissions, IASPEI has their regional commissions in Europe (since 1951), Asia (since 1996), Africa (since 2011) and Latin America (since 2013). These regional commissions meet bi-annually, typically with training courses, to promote seismology in each region.

Seismology started as national scale for describing the earthquake phenomena and their effects. First seismological societies were established in Switzerland (1878), in Italy (1879) and in Japan (1880). After the first teleseismic recording in Germany from an earthquake in Japan (1889), seismology became an international science, and First International Seismological Conference was held in Strasbourg in 1901, representing 8 countries including Japan. In 1904, International Seismological Society was established. In 1922, it became a part of IUGG (established in 1919), with changing name to IAS in 1930 and IASPEI in 1951.

IASPEI plays important roles in unifying seismological observations, such as naming seismic phases, defining measurement procedures, or improving the network of seismic stations, and published Manuals of Seismological Observatory Practice (the latest version in 2012). IASPEI has a close relation with International Seismological Centre, which has produced seismological bulletins based on the IASPEI standard. IASPEI also provided standard seismic velocity structure models of the earth, such as iasp91 or ak135. Global distribution of earthquakes in the earth and the reference earth models have been important basic data for developing the science such as plate tectonics, or structure and dynamics of the earth' s interior. IASPEI also conducted peer reviews and evaluated the published precursory phenomena for earthquakes. IASPEI developed and distributed seismological software, and International Handbook of Earthquake and Engineering Seismology.

IASPEI supports FDSN (International Federation of Digital Seismograph Networks) which is composed of groups responsible for installation and maintenance of seismological networks, and activities of CTBTO (Comprehensive Test-Ban Treaty Organization) which uses seismic data to detect nuclear explosions. IASPEI also supports joint commissions with other associations of IUGG, such as ILP (International Lithosphere Project), on tsunamis, volcanology or on space geodesy.

The IASPEI commission of Seismological Society of Japan practically acts as the national committee of IASPEI, and disseminates IASPEI information to Japanese seismological community, nominates officers and award candidates. SSJ has made financial supports to ASC (Asian Seismological Commission) and IASPEI, for travel support of participants and for management of the ASC meetings. Several members of executive committees and chairs of commission are elected from Japan. The last scientific assembly of

IASPEI, joint with IAG, was held in Kobe, Japan, in 2017 with great success.

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