Embassy of Japan in Ireland
The Dublin Institute for Advanced Studies (DIAS)
15 January 2014
[14-01]

"Advanced Researches of Earthquakes and Tsunamis Based on Lessons Learned from the Great East Japan Earthquake 2011"

Marking the third anniversary of the Great East Japan Earthquake of March 2011, a lecture entitled "Advanced Researches of Earthquakes and Tsunamis Based on Lessons Learned from the Great East Japan Earthquake 2011" by world expert on earthquakes and tsunamis, Dr Yoshiyuki Kaneda, of the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), will be held at 14.30 on Monday, 3 February at DIAS (10 Burlington Road, Dublin 4)

The magnitude 9.0 mega-quake of 11 March 2011 was one of the most dreadful on record. About 16,000 people lost their lives, up to 246,000 people were displaced, and it caused an estimated €24 billion of economic damage. The Japanese government's Earthquake Research Committee, Headquarters for Earthquake Research Promotion, reported on 24 May 2013 that there is a 60 to 70 per cent probability of a magnitude 8 to 9 earthquake occurring along the Nankai Trough off southwestern Japan within the next 30 years.

To help further understand fault zone mechanics and earthquake generation of such an event, Japanese scientists have just installed a network of some 30 high-tech observatories on the deep ocean floor. Packed with sensors, these stations send real-time information back to shore, allowing scientists to monitor the Earth's plates as they slip, shift and buckle. The information has already been helping scientists to gain a better understanding of what's happening in the Earth and to improve earthquake prediction algorithms. Although their current network was not operational in time for the Great East Japan Earthquake of 2011, the operational sensors at that time detected the quake 15 minutes before sensors on the shore did. This demonstrates the value of sensors on the ocean floor, providing valuable time which could be crucial in alerting the population to an imminent tsunami, and prevent a disaster.

Ireland has been hit by at least two authenticated but much smaller tsunamis in 1755 and 1761, when buildings were damaged along the south coast. The tsunami in 1755 was caused by the Great Lisbon Earthquake, and a similar event today could trigger another tsunami endangering the south coast in particular. Ireland is also at the risk of a tsunami from submarine landslides, as happened off Canada in 1929, or a volcanic eruption on the Canary Islands or similar events in the Caribbean.

Dr Kaneda leads Japan's Earthquake and Tsunami Research Project for Disaster Prevention at JAMSTEC. For the third anniversary of the Great East Japan Earthquake, he is visiting three European countries, starting in Ireland, to talk about the latest research, the lessons learned from the 2011 disaster, the latest efforts and research into the mitigation of such catastrophes, and how we can more reliably and accurately anticipate such events in the future.

The talk is a joint initiative of the Embassy of Japan in Ireland and DIAS, a centre for seismic research which runs the Irish National Seismic Network (INSN), and is open to the public and all interested parties. As seating capacity is limited, registration is essential at the Embassy of Japan on 01-202 8305 or cultural@ir.mofa.go.jp between 20 and 30 January. Dr Kaneda is also giving an expert workshop for young researchers on the morning of 3 February, and will be happy to meet the media beforehand.

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(Contact)

For registration: Yuichi Yamada / Jenny O'Connor, Press and Cultural Affairs Section, Embassy of Japan in Ireland

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(About DIAS)

The Dublin Institute for Advanced Studies, founded in 1940, is Ireland's premier independent research institute, with schools of Theoretical Physics, Cosmic Physics (including Geophysics), and Celtic Studies. DIAS runs Ireland's seismic monitoring programme, with a network of stations around the country, and the national data centre for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). See: www.dias.ie

(Related Video)

See the JAMSTEC video of the remotely operated vehicle "Hyper dolphin" burying and installing the DONET (Dense Ocean floor Network system for Earthquakes and Tsunamis) observation devices deep under the ocean: http://www.jamstec.go.jp/donet/e/about/news/20110208/