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Winter Public Lecture Series in Physics  
in honour of Alexander and Leicester McAulay

# The Nuclear Accident at Fukushima

Professor Peter Johnston

Australian Radiation Protection and Nuclear Safety Agency

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Physics Lecture Theatre 1

Sandy Bay Campus, University of Tasmania

**ABSTRACT:**

On March 11, 2011, the north-east coast of Honshu was first struck by an earthquake of magnitude 9.0 followed by an extremely large tsunami. These natural disasters caused large numbers of deaths and profound damage to infrastructure. In particular, the Fukushima Dai-ichi Nuclear Power Station shutdown when the earthquake occurred as did other Nuclear Power Stations in the region. Unfortunately, profound damage to both the Power Station and surrounding infrastructure was so severe that essential services could not be restored to re-establish active cooling and an accident provisionally rated 7 on the International Nuclear Emergency scale has occurred. This talk will discuss the event, Australian Government response and will put Fukushima in the context of previous nuclear accidents.

**SPEAKER PROFILE:**

Peter Noel Johnston was trained as a physicist at the University of Melbourne and La Trobe University. Not long after completion of his B.Sc.(Hons.), Peter joined the Australian Radiation Laboratory and worked in a Radioactivity Standards, Environmental Radioactivity and Health Physics for 10 years. In 1989, he joined Royal Melbourne Institute of Technology as a Lecturer, progressing to become Professor of Applied Nuclear Physics in 2001 and Head of Physics in 2003. In February 2009, Peter joined ARPANSA as Branch Head of Environment and Radiation Health Division. During his career Professor Johnston published over 100 international refereed journal papers in ion beam physics, environmental radioactivity, health physics and medical physics and supervised 10 PhD students. He also had three visiting scientist contracts to work at the Institute of Reference Materials and Measurements, Geel, Belgium and a sabbatical at the University of Lund, Sweden. Additionally Professor Johnston had Ministerial appointments to the Uranium Mining, Processing and Nuclear Energy Review (2006), Alligator Rivers Region Technical Committee (2006-2009), Alligator Rivers Region Advisory Committee (2011-), Radiation Health and Safety Advisory Committee (2005-2008) as well as appointments to the Radiation Health Committee (2003-2005) and Nuclear Safety Committee (2003-2008) by the CEO, ARPANSA.

At RMIT, Peter had 20 years Research, Teaching and Consultancy experience, represented RMIT on Deans and Directors of Graduate Education in Australian Universities and served on many University bodies including the Higher Degrees Committee (as Chair); Academic Board, University Research Committee and Professorial level Promotions Committees. Professor Johnston also served as Registrar of the Australian Institute of Physics and chaired the Accreditation and Membership Committees of the Institutes from 2001 to 2007.

Since joining ARPANSA, Peter was Delegation Head, 3rd Review Meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management held in Vienna, May 11-20, 2009 and appointed a Member of the IAEA Commission on Safety Standards (CSS).

Peter Johnston is a Fellow of the Australian Institute of Physics and remains an Adjunct Professor at RMIT University.