[EJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-AG Applied Geosciences

[M-AG33]Dynamics of radionuclides emitted from Fukuchima Dai-ichi Nuclear Power Plant in the environment

convener:Kazuyuki Kita(Faculty of Science, Ibaraki University), Yuichi Onda(Center for Research on Isotopes and Environmental Dynamics, University of Tsukuba), SHINOHARA ATSUSHI(大阪大学, 共同), Daisuke Tsumune(Central Research Institute of Electric Power Industry)

Sun. May 20, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

The Great East Japan Earthquake caused the severe accident in TEPCO Fukushima dai-ichi nuclear power plant (FDNPP), leading to emission of huge amount of radionuclides to the environment. They have been transported and diffused by atmospheric motion, depositing them to soil and vegetation. Deposited radionuclides are dynamically shifted in the earth environment; atmosphere, soil, inland water, ocean, and ecosystem. To understand this dynamic shift in the environment and for the long-term prediction of the disaster by the radionuclides, investigation and discussion based on not only the earth sciences including ecology but also on the radiochemistry and other related sciences.

In this session, various efforts to understand the dynamic behavior of radionuclides emitted from FDNPP accident in the earth system as well as to predict their influences on the environment. It is expected that this session will offer a good opportunity to discuss radionuclides in the earth environment from wide aspect and to exchange information in various research fields.

[MAG33-P10]Experimental study on emission mechanism of shiitake mushroom spore - Shape characteristics of spore particles -

Ishizuka Masahide[1], *Kuniaki Tanaka[1], Yasuhito Igarashi[2], Kentaro Hosaka[3], Kazuyuki Kita[4] (1.Kagawa University, 2.Meteorological Research Institute, 3.National Museum of Nature and Science, 4.Ibaraki University)

Keywords:Secondary emission, FDNPP accident, Particle Image Velocimetry

Huge amount of radioactive materials was emitted to natural environment by FDNPP accident and those were deposited on forest and soil grounds. Recent study shows the concentration of radiocesium in atmosphere increases in summer in mountain area in Namie town, Fukushima prefecture. For this reason, gene analysis clarified the contaminated mushroom spores cause such seasonal variation. In order to consider the long-term effect on human health, evaluations of the amount of emitted spore and characteristics of its seasonal variation is important. However, there are few study focus on the emission mechanism of spore. In this study, particle size and shape of a shiitake mushroom are measured in laboratory. The results show the area equivalent particle diameter of fresh spore and dry spore are 4.44±0.35 µm and 3.93±0.94 µm, respectively. The shape of fresh spore is oval and the length of long axis is about 1.5 times longer than that of short axis.