

GSI – BIOPHYSICS SEMINAR

Monday, February 18th, 2019 at 10:30 a.m.

Main Lecture Hall (South Building)
Planckstraße 1, 64291 Darmstadt

Dr. Akihiro Sakoda

Japan Atomic Energy Agency, Okayama, Japan

“Radon researches focusing on positive effects due to radon therapy”

There are radon spas in Japan, in a few of which radon hot spring water was been utilized with a therapeutic purpose as articular rheumatism. We have been demonstrating positive effects of radon gas on disease model mice, and also have been investigating empirically or numerically the behavior of radon gas in the body. This talk will provide the outline of our research project and some specific achievements as to radon dosimetry.

Dr. Norie Kanzaki

Japan Atomic Energy Agency, Okayama, Japan

„Application of information mathematics to the analysis of radiation health effects”

Computerization of health information has been rapidly developed in the last dozen years. However, it is still hard to understand each person's health condition because there are a number of factors with individual differences, such as heredity and lifestyle. In this context, self-organizing maps (SOM) which is a kind of machine learning have a possibility to deepen our understanding of the health information since SOM visualizes variations with a fuzzy description. We believe that the concept is useful for protection of public health. This presentation will introduce that we performed knowledge extraction of the data about the health effects in mice of low-dose radiation on the inhibition of various diseases, using SOM. For example, the SOM's output map showed full pain relief by 2000 Bq/m³ radon inhalation for 24 hours and we found other indications with a high clinical possibility of radon therapy on the SOM's output maps. Information mathematics may be valuable for complicated issues in understanding the effects of low-dose radiation.

Hosted by Prof. Dr. Marco Durante

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