

Professor Harue Masuda, Department of Biology & Geosciences, Graduate School of Science



Professor Masuda is a specialist of hydro-geochemistry. She studies mass transfer associated with water circulation on the surface and in the shallow part of the Earth's crust. Water is the unique substance characterizing Planet Earth. Water is mostly reserved in the ocean on the Earth's surface as liquid, some is ice, and a small but important part is steam in the atmosphere. The water has been working for making the environment of Earth. Prof. Masuda is interested in roles of flowing water on and in the crust to change the environments. She has studied groundwater contamination, especially natural arsenic contamination and anthropogenic nutrition of groundwaters in Japan and Asian countries. Contamination of toxic chemicals degrades the quality of life. Groundwater is the most important water resource of the world, however, it is facing a crisis.

She has been also working on ocean floor science.

She studied submarine water circulation including hydrothermal systems (so-called submarine hot springs) in relation to the hydrothermal ore deposits and origin of life and diagenesis related to the seismicity along the convergent plate boundaries. Water circulation is also related to the volcanisms in the oceanic crust. She joined many research cruises using submersible "Shinkai 6500" and its mother ship "Yokosuka", deep sea drilling vessel "Chikyu", and others. She has been attracted by the breadth and beauty of the blue oceans, which account for 70% of the Earth's surface.

She contributes to the environmental politics as a committee member of local governments; e. g., as a chair of managing hot springs of Osaka Prefecture, she is monitoring the water resources for hot spas, giving suggestions to monitoring and mitigation of water and soil pollution of Osaka and Hyogo Prefectures among others.

Another side

As a scientist, Dr. Masuda has had the opportunity to enjoy spending time in unique places around the world. Because she easily gets motion sickness, she often has a hard time, however, especially in ocean surveys. But once she sees the big beautiful ocean, she forgets her discomfort and eventually boards the ship again. During the rainy season in the tropics it is hot and uncomfortable, but this is where the beauty of water can be experienced. She looks forward to seeing the water and communicating with the local people.