Makoto Taniguchi

JAPAN

Employment:

1987 – 1988 Researcher, Division of Water Resources, CSIRO, Australia
1988 – 1990 Researcher, Environmental Research Center, University of Tsukuba, Japan
1990 – 1992 Assistant Professor, Department of Earth Sciences, Nara University of Education, Japan
1993 – 2000 Associate Professor, Department of Earth Sciences, Nara University of Education, Japan
2000 – 2003 Professor, Department of Earth Sciences, Nara University of Education, Japan
2003 – 2008 Associate Professor, Research Institute for Humanity and Nature, Japan
2008-present Professor, Research Institute for Humanity and Nature, Japan
2015-present Deputy Director-General, Research Institute for Humanity and Nature, Japan

Academic Awards and Distinctions:

1987 Research Award, The Association of Japanese Geographers; 2005 Yoshimura Prize, Japanese Association of Limnology; 2015-2020 President of Japanese Association of Groundwater Hydrology; 2016-2020 Vice President of International Association of Hydrogeologists; 2017-2023 Cooperation member of Science Council of Japan; 2020-2022 President of Atmospheric and Hydrospheric Sciences Section, Japan Geoscience Union; 2021 Society Award, The Japanese Association of Groundwater Hydrology; 2022 Academic Award, The Japanese Association of Hydrological Sciences; 2022-present President of Japanese Association of Hydrological Sciences; 2023 Japan Geoscience Union Fellow

Research Interests

I was educated in “Hydrology and Geography”, and I became an interdisciplinary geoscientist working on the research subjects of hydrology, meteorology, oceanography, geodesy, and geothermics, and have contributed to the geophysics, geosciences, and environmental sciences for more than 35 years. My first research interest is the geophysical processes revealed by groundwater temperature as tracer. Groundwater temperature-depth profiles are used to evaluate the magnitude and directions of the fluid flow in subsurface environment, freshwater-saltwater interface, and the impacts of groundwater pumping. My second research interest is the evaluations of the underground warming due to global warming and heat island effects. Many processes of the underground warming have been found, and the effect of underground warming have been reached deeper in the groundwater recharge area, though it remained shallower in the groundwater discharge area. Reconstruction of the climate change and the stage of urbanization have been also made by using the subsurface temperature-depth profiles in Asian cities. My third research interest is the evaluations of submarine groundwater discharge (SGD), which is an invisible and unknown water and dissolved material transports from land to the ocean. Newly developed equipment and interdisciplinary research with hydrologists, oceanographers and ecologists were able to reveal the processes of SGD, such as the tidal effects on SGD, re-circulated SGD, and the effects of SGD on coastal ecosystem. I also have an interest in the challenge to the global sustainability under the climate and environmental changes, which include the climate and human impacts on global environment and water-energy-food nexus.

Service to IUGG, IAHS, IASPEI

2007-2011 Vice President of International Committee of Groundwater of IAHS under IUGG
2007-2011 Secretary of International Heat Flow Commission of IASPEI under IUGG
2008-2014 President of IAHS Committee of IUGG-Japan under Science Council of Japan
2015-2019 Union Commission Member of Climate and Environmental Change under IUGG

MT is the author and co-author of more than 190 articles in peer reviewed journals and 17 books.