

## Biographical Sketch for: Hideki Shimamura

BORN: 23rd November, 1941, in Tokyo, Japan; Male.

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### EDUCATION:

B.Sc. in Physics (1964), M.Sc. in Geophysics (1966), and Ph.D. (1969), the University of Tokyo.

### POSITIONS HELD:

Research associate, Geophysical Institute, the University of Tokyo (1969-72).

Associate professor of Geophysics, Hokkaido University (1972-88).

Professor of Geophysics in the Faculty of Science, Hokkaido University (since 1988).

Director of the Laboratory for Ocean Bottom Seismology (LOBS), Hokkaido University (1979-98).

Director of ISV (Institute of Seismology and Volcanology) of the Hokkaido University (since 1998).

Foreign member of Polish Academy of Sciences (since 1997).

Chairman of the IASPEI Commission of the Controlled Source Seismology (1983-89).

Chairman of the Japan National Committee for Polar Research, ICSU (since 2000).

Member, Advisory Committee for National Institute of Polar Research, Japan.

Chairman, Planning Committee for Japanese Antarctic Earth Science Program.

Member of the Geophysical (Geodetic) Council of Japan (since 1981).

Member of the Seismological Committee of Science Council of Japan (since 1994).

Member of the Coordination Committee for Earthquake Prediction Research in Universities (since 1980).

### SCIENTIFIC CONTRIBUTIONS:

He has succeeded to develop a small, reliable, and sensitive Ocean Bottom Seismographs (OBS) after numerous tries and modifications those took almost two decades since 1960's. He has been organizing and making research by the use of 20-50 portable OBS, in the Atlantic Ocean every year since 1987, except in 2001 when he made OBS survey in the Marmara Sea, Turkey, and in the French Caribbean. Also he has made OBS studies in Japanese seas (almost every year) and Antarctic Ocean (1990-1991). By the use of the OBS, he could make a research about the detailed seismicity of the seafloor, which is a direct result of current movements of seafloor. Also he made clear the deep structure beneath the seafloor. He also developed microtemperature groundwater thermometer which makes use of quartz crystal sensor. By this sensitive thermometer he found various microtemperature signals with amplitudes less than 0.01 degrees celcius, which are related to crustal strain, earthquakes and volcanic activities.

He wrote twelve books in Japanese to the date, about seismology and geophysics, for the public and students. He received three publishing prizes by his books. The latest Prize is the Sankei Press Prize for publishing books for children, which he was rewarded in May 2002 with the attendance of a Japanese princess, Akishinonomiya-Kiko, by his book "Country of Earthquakes and Volcanoes". Also he was given the Akashiko Prize for the Children's Science Book in 1983 by writing a book "Research into Earthquakes", and also received a Kohdansha Prize for Publishing (in the field of scientific books) in 1989 by writing a book "Inside of the Earth -- A Frontier of Earthquake Research".

### SELECTED PUBLICATIONS:

Shimamura, H., Tomoda, Y., and Asada, T. (1975). Seismographic observation at the bottom of the Central Basin Fault of the Philippine Sea, *Nature*, 253(5488), 177-179.

Shimamura, H., Asada, T., and Kumazawa, M. (1977). High shear velocity layer in the upper mantle of the Western Pacific, *Nature*, 269(5639), 680-682.

Shimamura, H. and Watanabe, H. (1981). Coseismic changes in ground water temperature of the Usu volcanic region, *Nature*, 291, 137-138.

Kodaira, S., Mjelde, R., Gunnarsson, K., Shiobara, H., and Shimamura, H. (1997). Crustal structure of the Kolbeinsey Ridge, N. Atlantic, obtained by use of Ocean-Bottom Seismographs, *J. Geophys. Res.*, 102(B2), 3131-3151.

Nakanishi, A., Shiobara, H., Hino, R., Kodaira, S., Kanazawa, T., and Shimamura, H. (1998). Detailed subduction structure across the eastern Nankai Trough obtained from ocean bottom seismographic profiles, *J. Geophys. Res.*, 103 (B11), 27151-27168.

Hino, R., Ito, S., Shiobara, H., Shimamura, H., Sato, T., Kanazawa, T., Kasahara, J., and Hasegawa, A. (2000). Afterchock distribution of the 1994 Sanriku-oki earthquake (Mw 7.7) revealed by ocean bottom seismographic observation, 2000. *J. Geophys. Res.*, 105(B9), 21697-21710.

Mjelde, R., Digranes, P., Van Schaack, M., Shimamura, H., Shiobara, H., Kodaira, S., Naess, O., Sorenes, N. and Vaagnes, E. (2001). Crustal structure of the outer Voring Plateau, offshore Norway, from ocean bottom seismic and gravity data, *J. Geophys. Res.*, 106(B4), 6769-6791.

Weir, N.R., White, R.S., Brandsdottir, B., Einarsson, P., Shimamura, H., Shiobara, H., and the RISE Fieldwork Team (2001). Crustal structure of the Northern Reykjanes Ridge and Reykjanes Peninsula, Southwest Iceland, *J. Geophys. Res.*, 106, 6347-6368.