

Biographical Sketch for: Tokuji Utsu

BORN: April 13, 1928, in Tokyo, Japan; Male.
E-mail: utsu@purple.plala.or.jp

EDUCATION:

- B. Sc. in Geophysics, University of Tokyo (1951)
- D. Sc. in Geophysics, University of Tokyo (1961)

POSITION HELD:

- Seismologist, Japan Meteorological Agency (1951-1964)
- Associate Professor, Department of Geophysics, Hokkaido University (1964-1972)
- Professor, School of Earth Sciences, Nagoya University (1972-1977)
- Professor, Earthquake Research Institute, University of Tokyo (1977-1989)
- Director, Earthquake Research Institute, University of Tokyo (1985-1988)
- Professor Emeritus, University of Tokyo (1989-present)
- Visiting Research Associate, Institute of Statistical Mathematics, Tokyo (1990-2000)

RESEARCH SUBJECTS:

- (1) Aftershocks (modification of the Omori formula by introducing an exponent p , aftershock zone size vs. magnitude relation)
- (2) Magnitude-frequency relations (parameter estimation, significance tests)
- (3) High- Q , high- V slabs at island arcs (evidence for high- Q slabs, estimation of Q and velocity contrasts)
- (4) Seismic intensity studies (attenuation curves, low-frequency earthquakes)
- (5) Seismicity patterns (correlation between two regions, seismic gaps)
- (6) Probabilistic earthquake prediction (multi-precursor formula, earthquake recurrence models, foreshock probabilities)
- (7) Compilation of earthquake catalogs for early years of seismic observation in Japan

SELECTED PUBLICATIONS:

- Utsu, T. (1961). A statistical study on the occurrence of aftershocks. *Geophys. Mag.*, **30**, 521-605.
- Utsu, T. (1962). On the nature of three Alaskan aftershock sequences of 1957 and 1958, *Bull. Seism. Soc. Am.*, **52**, 279-297.
- Utsu, T. (1966). Regional differences in absorption of seismic waves in the upper mantle as inferred from abnormal distributions of seismic intensities. *J. Fac. Sci. Hokkaido Univ. Ser VII*, **2** 359-374.
- Utsu, T. (1966). A statistical significance test of the difference in b -value between two earthquake groups. *J. Phys. Earth*, **14**, 37-40.
- Utsu, T. (1971). Seismological evidence for anomalous structure of island arcs with special reference to the Japanese region. *Rev. Geophys.*, **9**, 839-890.
- Utsu, T. (1974). Space-time pattern of large earthquakes occurring off the Pacific coast of the Japanese Islands. *J. Phys. Earth*, **22**, 71-85.
- Utsu, T., (1980). Spatial and temporal distribution of low-frequency earthquakes in Japan. *J. Phys. Earth*, **28**, 361-384.
- Utsu, T. (1983). Probabilities associated with earthquake prediction and their relationships. *Earthq. Pred. Res.* **2**, 105-114.
- Utsu, T. (1984). Estimation of parameters for recurrence models of earthquakes. *Bull. Earthq. Res. Inst. Univ. Tokyo* **59**, 53-66.
- Utsu, T. (1999). Representation and analysis of the earthquake size distribution: A historical review and some new approaches. *Pure Appl. Geophys.*, **155**, 509-535.