



**Wu Zhongliang (Z. L. Wu)**

Born 1963, in Liaoning, China

**EDUCATION:**

B.Sc. Geophysics, Peking University (1985)  
M.Sc. Geophysics, Peking University (1988)  
Ph.D. Geology and Geophysics, Peking University (1991)



**EMPLOYMENT:**

Post-doc, Institute of Geophysics,  
State Seismological Bureau, Beijing (1991-1993)  
Associate Research Scientist, Institute of Geophysics,  
State Seismological Bureau, Beijing (1993-1995)  
Research Scientist, Institute of Geophysics,  
China Seismological Bureau, Beijing (1996-2002)  
Professor, College of Earth Science, Graduate University of  
Chinese Academy of Sciences, Beijing (2002-2007)  
Research Scientist, Institute of Geophysics,  
China Earthquake Administration, Beijing (2008-)

**POSITIONS HELD:**

Deputy Director, Institute of Geophysics,  
China Seismological Bureau, Beijing (1996-2002)  
Adjunct Deputy Director, Center for Analysis and Prediction,  
China Earthquake Administration, Beijing (2002-2004)  
Vice Dean, College of Earth Science, Graduate University  
of Chinese Academy of Sciences, Beijing (2003-2004)  
Director, Institute of Geophysics,  
China Earthquake Administration, Beijing (2004-)

**PROFESSIONAL MEMBERSHIPS:**

Member of Executive Committee, International Association of  
Seismology and Physics of the Earth's Interior  
(IASPEI, 1999-2003)  
Chairman, Commission on Earthquake Hazard, Risk and  
Strong Ground Motion (SHR) of IASPEI (2001-2007)  
Vice President, The Seismological Society of China (2002-2010)

First Vice-President, IASPEI (2003-2007)  
President, IASPEI (2007-2011)  
Visiting Research Scientist, Hanyang University,  
Anhsan, Korea (1995-1996)  
Visiting Professor, Graduate School, Academia Sinica,  
Beijing, China (1996-2002)  
Adjunct Research Scientist, Lamont-Doherty Earth Observatory  
(LDEO), Columbia University, New York, USA (1999-2005)  
Visiting Research Scientist, Institute of Geophysics,  
China Earthquake Administration (2002-2005)  
Associate, The Abdus Salam International Centre for  
Theoretical Physics (ICTP), Trieste, Italy (2003-2008)

### **SELECTED PUBLICATIONS:**

- Wu, Z. L. and Gao, Y., 1994. Scaling law of earthquake energy: a modification in the view of broad frequency band. *Fractals*, 2: 583-588.
- Wu, Z. L. and Chen, Y. T., 1996. Decomposition of seismic moment tensors for underground nuclear explosions. *PAGEOPH*, 147: 357-366.
- Kim, S. G. and Wu, Z. L., 1996. Empirical analysis of digital seismograms from a cluster of explosions at regional distances for characterizing multiple explosions. *Geophys. J. Int.*, 125: 491-503.
- Wu, Z. L., Chen, Y. T. and Kim, S. G., 1996. Physical significance of earthquake quanta. *Bull. Seism. Soc. Amer.*, 86: 1623-1626.
- Wu, Z. L., 1998. Implications of a percolation model for earthquake 'nucleation'. *Geophys. J. Int.*, 133: 104-110.
- Wu, Z. L. and Chen, Y. T., 1998. Solitary wave in a Burridge-Knopoff model with slip-dependent friction as a clue to understanding the mechanism of the self-healing slip pulse in an earthquake rupture process. *Nonlinear Processes in Geophysics*, 5: 121-125.
- Wu, Z. L., 2000. Frequency-size distribution of global seismicity seen from broad-band radiated energy. *Geophys. J. Int.*, 142: 59-66.
- Gao, Y., Wu, Z. L., Liu, Z. and Zhou, H. L., 2000. Seismic source characteristics of nine strong earthquakes from 1988 to 1990 and earthquake activity since 1970 in the Sichuan-Qinghai-Xizang (Tibet) zone of China. *PAGEOPH*, 157: 1423-1443.
- Wu, Z. L., 2001. Scaling of apparent stress obtained from broadband energy catalogue and seismic moment catalogue and its apparent focal mechanism dependence. *Earth, Planets and Space*, 53: 943-948.
- Wu, Z. L. and Chen, Y. T., 2003. Definition of seismic moment at a discontinuity interface. *Bull. Seism. Soc. Amer.*, 93: 1832-1834.
- Wan, Y. G., Wu, Z. L. and Zhou, G. W., 2004. Focal mechanism dependence of static stress triggering of earthquakes. *Tectonophysics*, 390: 235-243.
- Wu, Z. L., 2004. Scaling law of SARS onset. *International Journal*

- of Modern Physics B, 18: 2559-2563.
- Wu, Z. L., Wan, Y. G. and Zhou, G. W., 2004. Focal mechanism dependence of a few seismic phenomena and its implications for the physics of earthquakes. PAGEOPH, 161: 1969-1978.
- Jiang, C. S. and Wu, Z. L., 2005. Test of the preshock accelerating moment release (AMR) in the case of the 26 December 2004 Mw 9.0 Indonesia earthquake. Bull. Seism. Soc. Amer., 95: 2016-2025.
- Xie, J., Wu, Z., Liu, R., Schaff, D., Liu, Y. and Liang, J., 2006. Tomographic regionalization of crustal Lg Q in eastern Eurasia. Geophys. Res. Lett., 33(3), L03315, doi:10.1029/2005GL024410.
- Jiang, C. S. and Wu, Z. L., 2006. Benioff strain release before earthquakes in China: Accelerating or not? PAGEOPH, 163: 1965-1976, doi:10.1007/s00024-006-0107-1.
- Zhao, Y. Z. and Wu, Z. L., 2008. Mapping the b-values along the Longmenshan fault zone before and after the 12 May 2008, Wenchuan, China, MS8.0 earthquake. Nat. Hazards Earth Syst. Sci., 8: 1375-1385.
- Peng, H. S., Wu, Z. L. and Jiang, C. S., 2010. Pre-seismic changes of noise correlation function (NCF) before the Wenchuan earthquake? Concurrency Computat.: Pract. Exper., 22: 1774-1783.
- Jiang, C. S. and Wu, Z. L., 2010. Seismic moment release before the May 12, 2008, Wenchuan earthquake in Sichuan of southwest China. Concurrency Computat.: Pract. Exper., 22: 1784-1795.
- Jiang, C. S. and Wu, Z. L., 2010. PI Forecast for the Sichuan-Yunnan region: Retrospective test after the May 12, 2008, Wenchuan earthquake. PAGEOPH, 167: 751-761, DOI 10.1007/s00024-010-0070-8.
- Zhao, Y. Z., Wu, Z. L., Jiang, C. S. and Zhu, C. Z., 2010. Reverse tracing of precursors applied to the annual earthquake forecast: Retrospective test of the Annual Consultation in the Sichuan-Yunnan Region of southwest China. PAGEOPH, 167: 783-800, DOI 10.1007/s00024-010-0077-1.
- Zhao, Y. Z., Wu, Z. L., Jiang, C. S. and Zhu, C. Z., 2010. Is the deformation rate of the Longmenshan fault zone really small? Insight from seismic data at the two-decade time scale. Earth, Planets and Space, 62: 887-891.
- Li, Y. C., Wu, Z. L. and Zhao, Y. Z., 2011. Estimating the number of casualties in earthquakes from early field reports and improving the estimate with time. Nat. Hazards, 56: 699-708, DOI 10.1007/s11069-010-9583-9.
- Jiang, C. S. and Wu, Z. L., 2011. PI forecast with or without de-clustering: an experiment for the Sichuan-Yunnan region. Nat. Hazards Earth Syst. Sci., 11: 697-706, DOI 10.5194/nhess-11-697-2011.
- Yang, X. L., Wu, Z. L., Jiang, C. S. and Xia, M., 2011. Estimating intensities and/or strong motion parameters using civilian

monitoring videos: The May 12, 2008, Wenchuan Earthquake. PAGEOPH, 168: 753-766, DOI 10.1007/s00024-010-0168-z.

Yang, X. L., Wu, Z. L. and Li, Y. C., 2011. Difference between real-life escape panic and mimic exercises in simulated situation with implications to the statistical physics models of emergency evacuation: The 2008 Wenchuan earthquake. Physica A: Statistical Mechanics and its Applications, 390: 2375-2380, DOI 10.1016/j.physa.2010.10.019.

Peng, H. S., Wu, Z. L., Wu, Y.-M., Yu, S. M., Zhang, D. N. and Huang, W. H., 2011. Developing a prototype earthquake early warning system in the Beijing capital region. Seism. Res. Lett., 82: 394-403, DOI 10.1785/gssrl.82.3.394.

Li, Y. T., Wu, Z. L., Peng, H. S., Jiang, C. S. and Li, G. P., 2011. Time-lapse slip variation associated with a medium-size earthquake revealed by "repeating" micro-earthquakes: the 1999 Xiuyan, Liaoning, Ms=5.4 earthquake. Nat. Hazards Earth Syst. Sci., 11: 1969-1981.

Richards, P. G. and Wu, Z. L., 2011. Seismic monitoring of nuclear explosions. In: Gupta, H. K.. (ed.), Encyclopedia of Solid Earth Geophysics, 2nd Edition, Amsterdam: Springer, 1144-1156.

Wu, Z. L. and Richards, P. G., 2011. Seismology, Monitoring of CTBT - Scientific and technical advances in seismology and their relevance. In: Gupta, H. K.. (ed.), Encyclopedia of Solid Earth Geophysics, 2nd Edition, Amsterdam: Springer, 1340-1343.

INTERNATIONAL PROFESSIONAL SERVICE:

Vice Chief, Sino-US Cooperative China Digital Seismograph Network (CDSN, 1993-1995)

Associate Editor-in-Chief, Acta Seismologica Sinica, Chinese and English Edition, Beijing (1998-2008)

Group Leader, National Coordination Group for Seismological Observation and Interpretation, China Earthquake Administration, Beijing (1998-)

Director, Beijing National Earth Observatory (NEOBJI, 2000-2010)

Editor, Earth, Planets and Space, Tokyo (2002-)

Topic Coordinator for Seismological Monitoring, CTBTO\_PrepComm/PTS International Scientific Assessment of the Implementation of the CTBT Verification System (ISS, 2008-2009)

IAGA-IASPEI Joint Assembly, Hanoi, Vietnam, 2001, SHR program group leader

ASC IVth General Assembly, Kathmandu, Nepal, 2002, member of International Advisory Committee, session convenor

IUGG XXIIIrd General Assembly, Sapporo, Japan, 2003, IASPEI-SHR program group leader

AOGS 1st Assembly, Singapore, 2004, session convenor

IIIrd International Conference on Continental Earthquakes, Beijing, China, 2004, session convenor

ASC Vth General Assembly, Yerevan, Armenia, 2004, member of International Advisory Committee, session convenor  
AOGS 2nd Assembly, Singapore, 2005, member of Scientific Program Committee, session convenor, public lecturer  
IASPEI General Assembly, Santiago de Chile, 2005, SHR program group leader  
Global Science Forum - Earthquake Science and Its Contribution to Society, Potsdam, Germany, 2006, member of Steering Committee, session convenor  
AOGS 3rd Assembly, Singapore, 2006, session convenor  
Western Pacific Geophysics Meeting, Beijing, China, 2006, co-chairman of seismology section, session convenor  
ASC VIth General Assembly, Bangkok, Thailand, 2006, member of International Advisory Committee, session convenor  
Global Science Forum - Earthquake Science and Its Contribution to Society: Global Seismic Risk Map, Istanbul, Turkey, 2007, session moderator  
Conference on Earthquake Predictability and Time-dependent Forecasting, Rueschlikon, Switzerland, 2007, session moderator  
IUGG XXIVth General Assembly, Perugia, Italy, 2007, union session co-convenor, IASPEI-SHR program group leader  
International Disaster Reduction Conference (IDRC), Harbin, China, 2007, session convenor  
14th World Conference on Earthquake Engineering (WCEE), Beijing, China, 2008, session convenor  
IASPEI General Assembly, Cape Town, South Africa, 2009, session co-convenor  
XIVth IAGA Workshop on Geomagnetic Observatory Instruments, Data Acquisition and Processing, Changchun, 2010, LOC chair  
ASC VIIIth General Assembly, Hanoi, Vietnam, 2010, session co-convenor  
AGU Fall Meeting, San Francisco, USA, 2010, session co-convenor  
IUGG XXV General Assembly, Melbourne, Australia, 2011, union session co-convenor, IASPEI session co-convenor

#### **INVITED LECTURES SELECTED:**

1994 NATO Advanced Research Workshop on Inducing of Earthquakes by Underground Nuclear Explosions: Environmental and Ecological Problems, Moscow, Key Speech: Wu, Z. L., Geometry of seismic moment tensor representations for underground nuclear explosions  
2002 Asian Seismological Commission (ASC) IVth General Assembly, Kathmandu, Nepal, Invited Presentation: Wu, Z. L., Zhu, C. Z., Zhang, G. M. and Chen, Z. L., Earthquake catalogues in the era of digital seismology: the state-of-the-art and future prospective  
2004 ASC Vth General Assembly, Yerevan, Armenia, Plenary Session

- Talk: Wu, Z. L., Jiang, C. S., Wan, Y. G. and Zhu, C. Z.,  
Seismological study on a dream in earthquake hazard assessment
- 2006 CTBT: Synergies with Science, 1996-2006 and Beyond, Vienna,  
Austria, Lecture: Wu, Z. L., Earthquake catalogues in the time of  
modern seismology
- 2006 ASC VIth General Assembly, Bangkok, Thailand, Keynote Speech: Wu,  
Z. L., Zhu, C. Z., Zhang, G. M. and Jiang, C. S., The great  
Tangshan earthquake: thirty years after
- 2007 28th Course of the International School of Geophysics and 5th  
International Workshop on Statistical Seismology, Erice, Italy,  
Lecture: Wu, Z. L., Liu, J., Zhu, C. Z., Jiang, C. S. and  
Huang, F. Q., Annual Consultation on the Likelihood of Earthquakes  
in Continental China: A possible arena for the predictive models  
of statistical seismology
- 2008 Evison Symposium on Seismogenesis and Earthquake Forecasting,  
Wellington, New Zealand , 30-minute Presentation: Wu, Z. L., Zhu,  
C. Z., Jiang, C. S. and Zhao Y. Z., Problems of statistical  
seismology: a preliminary discussion
- 2009 AGU Fall Meeting 2009, Session NH12 Multidisciplinary Approach to  
Earthquake Forecast/Prediction, Invited talk: Working Group on SEP  
Decade Plan (group leader: Z. L. Wu), Decade Plan (2010-2020) for  
the Study on Earthquake Predictability (SEP): challenges and  
opportunities in China
- 2010 ICTP Advanced Conference on Seismic Risk Mitigation and  
Sustainable Development, Trieste, Italy, Lecture: Wu, Z. L.,  
Designing the monitoring and modeling for the preparedness of  
seismic risk: Lessons learnt from the May 12, 2008 Wenchuan  
earthquake
- 2010 ASC VIIIth General Assembly, Hanoi, Vietnam, Plenary Session Talk:  
Jiang, C. S., Wu, Z. L., Zhao, Y. Z. and Zhu, C. Z., Pattern  
Informatics (PI) algorithm for time-dependent seismic hazard  
applied to Sichuan-Yunnan region, presented by Wu, Z. L.
- 2010 ASC VIIIth General Assembly, Hanoi, Vietnam, Plenary Session Talk:  
Yang, X. L., Wu, Z. L., Xia, M., Peng, H. S. and Jiang, C. S.,  
Civilian monitoring video for earthquake studies: a new source of  
information in our digital time, presented by Wu, Z. L.