

Biographic Sketch of Chyi-Tyi Lee



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A. Personal Data

Name: Chyi-Tyi Lee
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B. Education

<u>School</u>	<u>Nation</u>	<u>Department</u>	<u>Degree</u>	<u>Start/end year.month</u>
National Taiwan University	Taiwan	Geology	Ph.D.	1980.09 ~ 1986.06
National Taiwan University	Taiwan	Geology	Master	1975.09 ~ 1977.06
National Taiwan University	Taiwan	Geology	Bachelor	1971.09 ~ 1975.06

C. Current Position and Related Experiences

<u>Organization</u>	<u>Department</u>	<u>Title</u>	<u>Start/end year.month</u>
(current)			
National Central University, Inst. Applied Geology		Professor	2009.08 ~ current
(experiences)			
National Central University, Inst. Applied Geology		Head	2009.08 ~ 2012.07
National Central University, Inst. Applied Geology		Head	1991.08 ~ 1994.07
National Central University, Inst. Applied Geology		Associate Professor	1991.02 ~ 2009.07
Sinotech Engineering Consultants, Inc.		Principal Geologist	1986.06 ~ 1991.01
Sinotech Engineering Consultants, Inc.		Geologist	1983.01 ~ 1986.06
Sinotech Engineering Consultants, Inc.		Associate Geologist	1979.01 ~ 1982.12
Sinotech Engineering Consultants, Inc.		Assistant Geologist	1977.06 ~ 1978.12

D. Affiliations

American Geophysical Union (Member)
European Geosciences Union (Member)
Chinese Geophysical Society (Member)
Geological Society located in Taipei (Member)
Chinese Institute of Engineers (Member)
Chinese Institute of Civil and Hydraulic Engineering (Member)
Chinese Institute of Survey Engineering (Member)
Taiwan Geographic Information Society (Member)

E. Awards and Honors

Distinguished professor award, National Central University, 2016
Outstanding research award, Ministry of Science and Technology, 2016
Contribution to geology award, the Geological Society of Taiwan, 2016
Best reviewer award, Terrestrial, Atmospheric and Oceanic sciences, 2016
Outstanding research award, National Central University, 2008, 2010, 2011, 2012, 2014, 2015
Excellent paper of outstanding performance award, 10th Asian Regional Con. of IAEG, 2015
Most cited article award, Terrestrial, Atmospheric and Oceanic sciences, 2013
Excellent article award, Chinese Institute of Engineers, 2013
Excellent article award, Journal of Chinese Soil and Water Conservation, 2012
Top 50 cited paper, Elsevier, 2011
Excellent article award, Taiwan Geotechnical Society, 2007
Yearly best article award, Sino-Geotechnics, 2005, 2009
Outstanding young engineer award, Chinese Institute of Engineers, 1984.

F. Keynote Speech,

2017/05/11: “Statistical seismic landslide hazard analysis: an update”, Cross-Strait Symposium on Engineering Geology, Chengdu, China
2017/03/17: “Statistical seismic landslide hazard analysis: an example from Taiwan”, 2017 Seismology Forum, Academia Sinica, Taipei, Taiwan.
2015/05/11: “Debris Flow Hazard Analysis after a Major Earthquake”, The 4th International Symposium on Mega Earthquake Induced Geo-disasters and Long Term Effects, Chengdu, China.
2014/06/23: “Developing Nationwide Landslide Hazard Maps of Taiwan”, 2014 International Conference on Earth Observations and Societal Impacts, Miaoli, Taiwan.
2013/05/12: “Statistical Seismic Landslide Hazard Analysis - an Example from Taiwan”, The International Symposium in Commemoration of the 5th Anniversary of the 2008 Wenchuan Earthquake, Chengdu, China.
2013/03/27: “Opportunities and Challenges for Hazard Prevention Industry”, Inaugural Meeting of Taiwan Association of Hazard Prevention Industry, Taipei, Taiwan.
2012/10/25: “Engineering challenges and countermeasures of some difficult geological conditions in Taiwan”, 2012 Taiwan Rock Engineering Symposium, Miaoli, Taiwan.

F. Journal Editing

Editor Board, *Landslides*
Editor Board, *Engineering Geology*
Associated Editor, *Western Pacific Earth Sciences*
Associated Editor, *Journal of Chinese Soil and Water Conservation*
Associated Editor, *Ti-Chih*
Guest Editor, *Remote Sensing*, 2015, 2016
Guest Editor, *Terr. Atmos. Ocean. Sci.*, 2014
Guest Editor, *Engineering Geology*, 2010

G. Professional Qualification

Registered Professional Geologist in Taiwan, since 1977.

H. Academic Interest

Engineering Geology, Earthquake Geology, Seismic Hazard Analysis, Landslide Hazard analysis, Geostatistics, and GIS.

I. Publications

136 reviewed articles and 346 proceedings & abstracts have been published up to date. Selected publications (*Corresponding author) are listed as follows:

1. **Lee, Chyi-Tyi*** (2017) Landslide trend under extreme climate event, *Terr. Atmos. Ocean. Sci.*, 28(1), 33-42.
2. **Lee, Chyi-Tyi***, Chung, C.C. (2017) Common patterns among different landslide susceptibility models of the same region. In: *Advancing Culture of Living with Landslides*, Mikos, M., Tiwari, B., Yin, Y.P., Sassa, K. (eds.), Springer International Publishing, 2, 937-942.
3. Sung, C.H., **Lee, Chyi-Tyi*** (2016) A new methodology for quantification of the systematic path effects on ground-motion variability, *Bull. Seism. Soc. Am.*, 106(6), 2796-2810.
4. Liu, Y.A., **Lee, Chyi-Tyi**, Ho, C.R., Li, M.H. (2015) Preface to the Special Issue on "Earth Observations and Societal Impacts", *Terr. Atmos. Ocean. Sci.*, 26(2), I-II.
5. **Lee, Chyi-Tyi***, Fei, L.Y. (2015) Nationwide landslide hazard analysis and mapping in Taiwan. In: *Engineering Geology for Society and Territory*, Springer International Publishing, 2, 971-974.
6. **Lee, Chyi-Tyi*** (2014) Statistical Seismic Landslide Hazard Analysis: an Example from Taiwan, *Engineering Geology*, 182, 201-212.
7. **Lee, Chyi-Tyi***, Fei, L.Y. (2014) Nationwide landslide hazard analysis and mapping in Taiwan. In: *Engineering Geology for Society and Territory*, Springer International Publishing, 2, 971-974.
8. **Lee, Chyi-Tyi*** (2014) Multi-stage statistical landslide hazard analysis: earthquake-induced landslides. In: *Landslide Science for a Safer Geoenvironment*, Sassa, K., Canuti, P., Yin, Y.Y.Ugai, K., Yagi, H., Wakai, A. (eds.), Springer, 3, 205-211.
9. **Lee, Chyi-Tyi*** (2014) Multi-stage statistical landslide hazard analysis: rain-induced landslides. In: *Landslide Science for a Safer Geoenvironment*, Sassa, K., Canuti, P., Yin, Y.Y.Ugai, K., Yagi, H., Wakai, A. (eds.), Springer, 3, 291-298.
10. **Lee, Chyi-Tyi*** (2013) Re-evaluation of Factors Controlling Landslides Triggered by the 1999 Chi-Chi Earthquake. In: *Earthquake-Induced Landslides*, Ugai, K., Yagi, H., Wakai, A. (eds.), Springer, 213-224.
11. **Lee, Chyi-Tyi***, Lin, P.S., Hsieh, B.S., Sung, C.H. (2012) Regional Arias intensity attenuation relationship for Taiwan with considering Vs30, *Bull. Seism. Soc. Am.*, 102(1), 129-142.
12. Hsieh, S.Y., **Lee, Chyi-Tyi*** (2011) Empirical estimation of the Newmark displacement from the Arias intensity and critical acceleration, *Engineering Geology*, 122, 34-42.
13. Lin, P.S., **Lee, Chyi-Tyi***, Cheng, C.T., Sung, C.H. (2011) Response spectral attenuation relations for shallow crustal earthquakes in Taiwan, *Engineering Geology*, 121, 150-164.
14. Lin, P.S., Chiou, B., Abrahamson, N., Walling, M., **Lee, Chyi-Tyi**, Cheng, C.T. (2011) Repeatable source, site, and path effects on the standard deviation for empirical ground motion prediction models, *Bull. Seism. Soc. Am.*, 101(5), 2281-2295.
15. Wasowski, J., Keefer, D., **Lee, Chyi-Tyi** (2011) Toward the next generation of research on earthquake-induced landslides: current issues and future challenges, *Engineering Geology*, 122, 1-8.
16. Lee, M.H., Sung, R.T., Dong, J.J., **Lee, Chyi-Tyi**, Chen, C.C. (2011) The formation and breach of a short-lived landslide dam at Hsiaolin village, Taiwan - Part II: Simulation of Debris Flow with Landslide Dam Breach, *Engineering Geology*, 123, 60-71.
17. Dong, J.J., Li, Y.S., Kuo, C.Y., Sung, R.T., Li, M.H., **Lee, Chyi-Tyi**, Chen, C.C., Lee, W.R. (2011) The formation and breach of a short-lived landslide dam at Hsiaolin village, Taiwan - Part I: Post-event reconstruction of dam geometry, *Engineering Geology*, 123, 40-59.
18. Kuo, C.Y., Tai, Y.C., Chen, C.C., Chang, K.J., Siau, A.Y., Dong, J.J., Han, R.H., Shimamoto, T., **Lee, Chyi-Tyi** (2011) The landslide stage of the Shiaolin catastrophe: simulation and validation. *J. Geophys. Res.*, 116, F04007.
19. Cheng, C.T., **Lee, Chyi-Tyi***, Lin, P.S., Lin, B.S., Tsai, Y.B., Chiou, S.J. (2010) Probabilistic

- earthquake hazard in metropolitan Taipei and its surrounding regions. *Terr. Atmos. Ocean. Sci.*, Special Issue of Taipei Geohazards, 21(3), 429-446.
20. **Lee, Chyi-Tyi***, Dong, J.J., Lin, M.L. (2009) Geological investigation on the catastrophic landslide in SiaoLin Village, southern Taiwan, *Sino-Geotechnics*, 122, 87-94.
 21. Dong, J.J., **Lee, Chyi-Tyi***, Tung, Y.H., Liu, C.N., Lin, K.P., Lee, J.F. (2009) The role of the sediment budget in understanding debris flow susceptibility. *Earth Surf. Process. Landforms*, 34, 1612-1624, DOI: 10.1002/esp.1850.
 22. **Lee, Chyi-Tyi***, Huang, C.C., Lee, J.F., Pan, K.L., Lin, M.L., Dong, J.J. (2008) Statistical approach to earthquake-induced landslide susceptibility, *Engineering Geology*, 100(1-2), 43-58.
 23. **Lee, Chyi-Tyi*** Huang, C.C., Lee, J.F., Pan, K.L., Lin, M.L., Dong, J.J. (2008) Statistical approach to storm event-induced landslide susceptibility, *Natural Hazard and Earth System Sciences*, 8, 941-960.
 24. **Lee, Chyi-Tyi***, B.R. Tsai (2008) Mapping Vs30 in Taiwan, *Terr. Atmos. Ocean. Sci.*, 19(6), 671-682.
 25. Lin, P.S., **Chyi-Tyi Lee*** (2008) Ground-motion attenuation relationships for subduction zone earthquakes in northeastern Taiwan, *Bull. Seism. Soc. Am.*, 98(1), 220-240.
 26. Cheng, C.T., Chiou, S.J., **Lee, Chyi-Tyi**, Tsai, Y.B. (2007) Study on probabilistic seismic hazard maps of Taiwan after Chi-Chi earthquake, *Journal of GeoEngineering*, 2(1), 19-28.
 27. Chen R.F., Chang, K.J., Angelier, J., Deffontaines, B., **Lee, Chyi-Tyi**, Lin, M.L., Yan, I.H. (2006) Topographical changes revealed by high-resolution airborne LiDAR images: The 1999 Tsaoling landslide induced by the Chi-Chi earthquake, *Engineering Geology*, 88, 160-172.
 28. Lin, A., **Lee, Chyi-Tyi**, Maruyama, T., Chen, A. (2005) Meso- and microstructural analysis of coseismic shear zone of the 1999 M_w 7.6 Chi-Chi earthquake, Taiwan, *Bull. Seism. Soc. Am.*, 95(2), 486-501.
 29. Dong, J.J., Wang, C.D., **Lee, Chyi-Tyi**, Liao, J.J., Pan, Y.W. (2003) The influence of surface ruptures on damage in the 1999 Chi-Chi earthquake: a case study in Fengyuan City, *Engineering Geology*, 71, 157-179.
 30. Pathier, E., Fruneau, B., Deffontaines, B., Angelier, J., Chang, C.P., Yu, S.B., **Lee, Chyi-Tyi** (2003) Coseismic displacements of the footwall of the Chelungpu fault caused by the 1999, Taiwan, Chi-Chi earthquake from InSAR and GPS data, *Earth and Planetary Science Letters*, 212, 73-88.
 31. Hung, J.J., **Lee, Chyi-Tyi**, Lin, M.L. (2002) Tsao-Ling rockslides, Taiwan, Catastrophic Landslides: Effects, Occurrence, and Mechanisms, Geological Society of America Reviews in Engineering Geology, Volume XV, 91-115.
 32. **Lee, Chyi-Tyi***, C.T. Cheng, C.W. Liao, Y.B. Tsai (2001) Site Classifications of Taiwan free-field strong-motion stations, *Bull. Seism. Soc. Am.*, 91(5), 1283-1297.
 33. Teng, L.S., **Chyi-Tyi Lee**, C.H. Peng, W.F. Chen, and C.J. Chu (2001) Origin and geological evolution of the Taipei basin, northern Taiwan, *Western Pacific Earth Sciences*, 1(2), 115-142.
 34. Kelson, K.I., K.H. Kang, W.D. Page, **Chyi-Tyi Lee**, L.S. Cluff (2001) Representative Styles of Deformation along the Chelungpu Fault from the 1999 Chi-Chi (Taiwan) Earthquake: Geomorphic Characteristics and Responses of Man-Made Structures, *Bull. Seism. Soc. Am.*, 91(5), 930-952.
 35. Fruneau, B., Pathier, E., Raymond, D., Deffontaines, B., **Lee, Chyi-Tyi**, Wang, H.T., Angelier, J., Rudant, J.P., Chang, C.P. (2001) Uplift of Tainan Tableland (SW Taiwan) revealed by SAR interferometry, *Geophys. Res. Lett.*, 28(16), 3071-3074.
 36. Lin, A., Chen, A., Liao, C.F., **Lee, Chyi-Tyi**, Lin, C.C., Lin, P.S., Wen, S.C., Ouchi, T. (2001) Frictional fusion due to coseismic landsliding during the 1999 Chi-Chi (Taiwan) M_L7.3 earthquake, *Geophys. Res. Lett.*, 28, 4011-4014.
 37. Chen, Y.G., Chen, W.S., Lee, J.C., Lee, Y.H., **Lee, Chyi-Tyi**, Chang, H.C., Lo, C.H. (2001) Surface Rupture of the 1999 Chi-Chi Earthquake Yields Insights on Active Tectonics of Central

Taiwan, *Bull. Seism. Soc. Am.*, 91(5), 977-985.

38. Liao, H.W., **Lee, Chyi-Tyi*** (2000) Landslides triggered by the Chi-Chi Earthquake, Proceedings of the 21st Asian Conference on Remote Sensing, Volume 1&2, 383-388.
39. **Lee, Chyi-Tyi***, Kelson, K., Kang, K.H. (2000) Hanginwall deformation and its effect to buildings and structures as learned from the Chelungpu faulting in the 1999 Chi-Chi, Taiwan, earthquake, *Proc. Intl. Workshop Ann. Commem. Chi-Chi Earthquake, Taipei*, Vol. I (Science Aspect), 93-104.
40. Teng, L.S., **Lee, Chyi-Tyi**, Y.B. Tsai, L.Y. Hsiao (2000) Slab breakoff as a mechanism for flipping of subduction polarity in Taiwan, *Geology*, 20(2), 155-158.
41. Ma, K.F., **Lee, Chyi-Tyi**, Tsai, Y.B., Shin, T.C., Mori, J. (1999) The Chi-Chi, Taiwan Earthquake: Large Surface Displacements on an Inland Fault: *EOS Trans.*, American Geophysical Union, 80(50), 605 & 611.
42. Lacombe, O., Mouthereau, F., Deffontaines, B., Angelier, J., Chu, H.T., **Lee, Chyi-Tyi** (1999) Geometry and Quaternary kinematics of fold-and-thrust units of southwestern Taiwan, *Tectonics*: 18(6), 1198-1223.
43. Mouthereau, F., Lacombe, O., Deffontaines, B., Angelier, J., Chu, H.T., **Lee, Chyi-Tyi** (1999) Quaternary transfer faulting and belt front deformation at Pakuashan (western Taiwan), *Tectonics*, 18(2), 215-230.
44. Deffontaines, B., Lacombe, O., Angelier, J., Chu, H.T., Mouthereau, F., **Lee, Chyi-Tyi**, Deramond, J., Lee, J.F., Yu, M.S., Liew, P.M. (1997) Quaternary transfer faulting in Taiwan foothills: evidence from a multisource approach, *Tectonophysics*, 274, 61-82.
45. Teng, L.S., **Lee, Chyi-Tyi** (1996) Geomechanical appraisal of seismogenic faults in northeast Taiwan, *J. Geol. Soc. China*, 39(2), 125-142.
46. **Lee, Chyi-Tyi***, Wang, Y. (1988) Quaternary stress changes in northern Taiwan and their tectonic implication, *Proc. Geol. Soc. China*, 31(1), P154-168.
47. **Lee, Chyi-Tyi** (1986) Methods of stress analysis and paleostress changes in northern Taiwan due to arc-continent collision. Ph.D. dissertation, National Taiwan University, 370p.