LI-WEI KUO

INFO

Address
No. 300, Zhongda Rd., Zhongli District, Taoyuan City 32001, Taiwan ROC, Department of Earth Sciences, National Central University

Phone
886-3-4227151#65628

Email
liweikuo@ncu.edu.tw
liweikuo@gmail.com

Website
fzgl-liweikuo.com

EDUCATION

2009 - 2011,	Ph.D., Geosciences,
2004 - 2007	National Taiwan University, Taiwan
2001 - 2004	M.S., Geosciences,
	National Taiwan University, Taiwan
1997 - 2001	B.S., Geology,
	National Taiwan University, Taiwan

APPOINTMENTS

2022-Persent	Full Professor
	National Central University, Taiwan
2018 - 2022	Associate Professor,
	National Central University, Taiwan
2015 - 2018	Assistant Professor,
	National Central University, Taiwan
2015	Post-doctoral fellow,
	National Taiwan University, Taiwan
2014 - 2015	Visiting researcher,
	University of Padova, Itay
2011 - 2014	Post-doctoral fellow,
	National Taiwan University, Taiwan

PROFESSIONAL ACTIVITIES

Invited Speaker	2024	61st Annual Meeting of The Clay Minerals Society and 5th Asian Clay Conference (CMS), Hawaii
	2023	Slow-to-Fast Earthquake Workshop
	2020 & 2019	NSRRC 25^{th}&26^{th} User's Meeting & Workshops , Taiwan
	2019	American Geophysical Union Fall Meeting, United States
Journal Reviews	Nature Geoscience, Geology, Scientific reports, EPSL, GSA bulletin, GRL, JGR-Solid, G-cubed, Tectonics, Tectonophysics, JSG, JAES, Minerals and EPS	

EQUIPMENT SKILL

Analytical instrument

Synchrotron X-ray diffraction
Synchrotron Laue diffraction
Synchrotron Transmission X-ray Microscopy
X-ray powder Diffraction (XRD)
X-ray Fluorescence (XRF)
Thermogravimetric Analyzer (TGA)
Scanning Electron Microscope (SEM)
Transmission Electron Microscope
Micro-Raman

Simulated fault instrument

Slow to High Velocity Apparatus (SHIVA)
Rotary-shear high-velocity frictional testing apparatus (LHVR)

RESEARCH PROJECTS

2023-2026	• National Science and Technology Council Project: Artificial rapid earthquake slips in incohesive rocks (NSTC 112-2628-M-008-003-MY3) • Why is pounamu tough? Using materials science and mātauranga Māori to explain the special physical properties and uses of nephrite jade: with Nicholas Mortimer and Simon Cox at GNS, New Zealand
2023-2025	National Science and Technology Council Project: Feasibility Study of High-Power mm-Wave Geothermal Drilling (NSTC 112-2119-M-213-001)/(NSTC 113-2119-M-213-001)
2021-2023	Ministry of Science and Technology Project - “OBTAIN” Different deformation styles of faults (MOST 110-2116-M-008-002-MY2)
2019 - 2021	Ministry of Science and Technology Project - Revealing the contrast in deformation styles between fault core and damage zone throughout the seismic cycle, Taiwan (MOST 108-2116-M-008-0021-MY2)
2017 -2021	Bulk rheology of fault damage zone materials and its implication for interseismic fault mechanics at Chelungpu fault in Taiwan: with Hiroki Sone at University of Wisconsin-Madison, USA

HONORS AND AWARDS

2024-2029	Academia Sinica Scholar Award(ASSA)_Division of Mathematics and Physical Sciences
2021	2021 President Jia-Lun Luo Outstanding Research award for Junior Research Investigators, Taiwan
2020	Ta-You Wu Memorial Award, Taiwan
2019	The academia Sinica Research Award for Junior Research Investigators-Division of Mathematics and Physical Sciences
2018	Outstanding reviewer award in the journal “Earth and Planetary Science Letters”

PUBLICATION

- Nguyen, T. T., **L.-W. Kuo***, Q.-E. Kong, C.-W. Kuo, J.-J. Dong, D. Brown, H. Wang, S.-T. Kuo, H. Li and J. Si, 2024. *Fluid Drainage Leads to Thermal Decomposition of Wet Gouge During Experimental Seismic Slip*. Geophysical Research Letters, 51(18), doi: 10.1029/2023GL106879
- Kuo, S.-T.*, Larry S.-H. Lai, E.-C. Yeh, Y.-L. Tsai and **L.-W. Kuo**, 2024. *Damage asymmetry of the Chimei Fault, eastern Taiwan, and implications for deformation evolution*. Journal of Structural Geology, 186, doi: 10.1016/j.jsg.2024.105218.
- Ma, K.-F.*, S. von Specht*, **L.-W. Kuo**, H.-H. Huang, C.-R. Lin, C.-J. Lin, C.-S. Ku, E.-S. Wu, C.-Y. Wang, W.-Y. Chang, and P. Jousset, 2024. *Broad-band strain amplification in an asymmetric fault zone observed from borehole optical fiber and core*. Communications Earth & Environment, 5, 402, doi: 10.1038/s43247-024-01558-6.
- Chen, W.-L. Chen, J.-C. Kang, K. Kimoto, Y.-F. Song, G.-C. Yin, R. Swisher, C.-H. Lu, **L.-W. Kuo**, J.-J. Huang and Li Lo*, 2023. *μ-computed tomographic data of fossil planktonic foraminifera from the western Pacific Ocean: a dataset concerning two biostratigraphic events during the Early Pleistocene*. Frontiers in Ecology and Evolution, 11, doi: 10.3389/fevo.2023.1171891.
- Chen, B.-C., T. Perdana and **L.-W. Kuo***, 2023. *Geophysical characteristics of a fault system in the northern Central Range of Taiwan and its applications for geothermal energy exploration*. Geothermal Energy, 11:22, doi: org/10.1186/s40517-023-00265-3.
- Wang, H., H.B. Li, G. Di Toro, **L.-W. Kuo**, E. Spagnuolo, S. Aretusini, J.L. Si and S.-R. Song, 2023. *Melting of fault gouge at shallow depth during the 2008 MW 7.9 Wenchuan earthquake, China*. Geology, 51(4), p.345-350, doi: org/10.1130/G50810.1.
- Tran, T.-D., K.-L. Wang*, V. Kovach, A. Kotov, S. Velikoslavinsky, N. Popov, S. Dril, Z.-Y. Chu, D.-C. Lee, **L.-W. Kuo**, Y. Iizuka and H.-Y. Lee, 2023. *Plate tectonics in action in the Mesoarchean: Implication from the Olondo greenstone belt on the Aldan Shield of Siberian Craton*. Earth and Planetary Science Letters, 603, doi: 10.1016/j.epsl.2022.117975.
- Chen, T. Y., **L. W. Kuo***, D. Brown, J. Si, T. J. Meng, H. S. Sheu, Y. F. Song and G. C. Yin, 2022. *Lightning-induced features on granitic gneiss and its implication for rare lightning scars from the*

geological record. Contributions to Mineralogy and Petrology, 177:111, doi: 10.1007/s00410-022-01973-y.

- **Kuo, L. W.***, H. Sone, V. Luzin, E.-C. Yeh, Y. J. Hsu and E. Tan, 2022. *Gouge fabrics reset by thermal pressurization record stress on faults after earthquakes*, Geology, doi: 10.1130/G50217.1.
- Tarling, M. S., S. A. F. Smith, M. Negrini, **L.-W. Kuo**, W.-H. Wu and A. F. Copper, 2022. *An evolutionary model and classification scheme for nephrite jade based on veining, fabric development, and the role of dissolution–precipitation*. Scientific Reports, 12(7823), doi: 10.1038/s41598-022-11560-7.
- **Kuo, L. W.***, C. C. Hung, H. Li, S. Aretusini, J. Chen, G. Di Toro, E. Sapagnuolo, F. Di Felice, H. Wang, J. Si and H. S. Sheu, 2022. *Frictional properties of the Longmenshan-fault-belt gouges from WFSD-3 and implications for earthquake rupture propagation*. JGR-Solid Earth, 127(5), doi: 10.1029/2022JB024081.
- Talukdar, M.*, H. Sone and **L. W. Kuo**, 2022. *Lithology and Fault-Related Stress Variations Along the TCDP Boreholes: The Stress State Before and After the 1999 Chi-Chi Earthquak*e. JGR Solid Earth, 127(2), doi: 10.1029/2021JB023290.
- **Kuo, L. W.***, S. A. F. Smith, C. C. Chen, C. S. Ku, C. Y. Chiang, D. Brown, M. Negrini, W. J. Huang and T. Y. Chen, 2021. *Lightning-induced high temperature and pressure microstructures in surface and subsurface fulgurites*. Scientific Reports 11:22031, p. 1-14, doi: 10.1038/s41598-021-01559-x.
- **Kuo, L. W.***, W. J. Wu, C. W. Kuo, S. A. F. Smith, W. T. Lin, W. H. Wu and Y. H. Huang, 2021. *Frictional strength and fluidization of water-saturated kaolinite gouges at seismic slip velocities*. Journal of Structural Geology, 150, p. 1-17, doi: 10.1016/j.jsg.2021.104419
- Chen, B. C., T. Perdana, **L. W. Kuo***, 2021. *Fluid flow and fault-related subsurface fractures in slate and metasandstone formations: A case study of the Jentse Geothermal Area, Taiwan*. Geothermics, 89, p.1-15, doi: 10.1016/j.geothermics.2020.101986
- Wu, W. J., **L. W. Kuo***, C. S. Ku, C. Y. Chiang, H. S. Sheu, T. D. Aprilniadi and Jia-Jyun Dong, 2020. *Mixed-Mode Formation of Amorphous Materials in the Creeping Zone of the Chihshang Fault, Taiwan, and Implications for Deformation Style*. JGR Solid Earth, doi: 10.1029/2020JB019862