

LI-WEI KUO

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

2018 - present	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, Italy
2011 - 2014	Post-doctoral fellow, National Taiwan University, Taiwan
2009	On-site geologist, Wenchuan Earthquake Fault Scientific Drilling Project, China

PROFESSIONAL ACTIVITIES

Invited Speaker	2020 & 2019	NSRRC 25 th &26 th User's Meeting & Workshops , Taiwan
	2019	American Geophysical Union Fall Meeting, United States
	2018	Drilling Investigation of Seismogenic Crust in Oklahoma (DISCO), USA
Journal Reviews		Nature Geoscience, Geology, Scientific reports, EPSL, GSA bulletin, GRL, JGR-Solid, G-cubed, Tectonics, Tectonophysics, JSG, JAES, Minerals and EPS

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



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

- | | |
|----------------|---|
| 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 - present | 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 |
| 2016 - 2019 | Ministry of Science and Technology Project -
Deciphering the seismically active faults from
natural and experimental fault rocks,
Taiwan(MOST 105-2628-M-008-002-MY3) |
| 2011 - present | Wenchuan Earthquake Fault Scientific Drilling
(WFSD) project with Chinese Academy of
Geological Sciences, China |

HONORS AND AWARDS

- | | |
|---------------------|--|
| 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 |
| 2019, 2020,
2021 | Outstanding research award in National Central
University, Taiwan |
| 2018, 2019 | Good Teaching Faculties of the College of Earth
Sciences by National Central University in Taiwan |
| 2018 | Outstanding reviewer award in the journal “Earth
and Planetary Science Letters” |

PUBLICATION

- *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 Earthquake. *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
- *Hung, C. C.*, *L.-W. Kuo**, *E. Spagnuolo*, *C. C. Wang*, *G. Di Toro*, *W. J. Wu*, *J. J. Dong*, *W. Lin*, *H. S. Sheu*, *E. C. Yeh* and *P. S. Hsieh*, 2019. Grain fragmentation and frictional melting during initial experimental deformation and implications for seismic slip at shallow depths. *JGR Solid Earth*, doi: 10.1029/2019JB017905.
- *Kuo, L. W.**, *J. R. Huang*, *J. N. Fang*, *J. Si*, *H. Li* and *S. R. Song*, 2018. Carbonaceous materials in the fault zone of the Longmenshan Fault belt: 1. Signatures within deep Wenchuan earthquake fault zone and its implication. *Minerals*, 8, 385, doi: 10.3390/min8090385.
- *Kuo, L. W.**, *J. R. Huang*, *J. N. Fang*, *J. Si*, *S. R. Song*, *H. Li* and *E. C. Yeh*, 2018. Carbonaceous Materials in the Fault Zone of the Longmenshan Fault Belt: 2. Characterization of Fault Gouge from Deep Drilling and Implications for Fault Maturity, 8, 393, doi: 10.3390/min8090393.

-
- *J. Si**, *H. Li*, **L. W. Kuo**, *J. R. Huang*, *S. R. Song*, *J. Pei*, *H. Wang*, *L. Song*, *J. N. Fang* and *H. S. Sheu*. Carbonaceous Materials in the Longmenshan Fault Belt Zone: 3. Records of Seismic Slip from the Trench and Implications for Faulting Mechanisms. *Minerals*, 8(457), doi:10.3390/min8100457
 - **Kuo, L. W.***, *F. Di Felice*, *E. Spagnuolo*, *G. Di Toro*, *S. R. Song*, *S. Aretusini*, *H. Li*, *J. Suppe*, *J. Si* and *C. Y. Wen*, 2017. Fault gouge graphitization as evidence of past seismic slip. *Geology*, 45, p.979-982, doi: 10.1130/G39295.1.
 - **Kuo, L. W.***, *S. R. Song*, *J. Suppe* and *E. C. Yeh*, 2016. Fault mirrors in seismically active fault zones: A fossil of small earthquakes at shallow depths. *Geophysical Research Letters*, 43, p.1950-1959.
 - **Kuo, L. W.***, *Y. F. Song*, *C. M. Yang*, *S. R. Song*, *C. C. Wang*, *J. J. Dong*, *J. Suppe* and *T. Shimamoto*, 2015. Ultrafine spherical quartz formation during seismic fault slip: Natural and experimental evidence and its implications. *Tectonophysics*, 664, p.98-108.
 - *Wang, H.*, *H. Li*, *J. Si*, *Z. Sun*, *X. Fu*, *D. Liu*, *J. Pei*, *C. Li*, *J. Zhang*, *S. R. Song*, **L. W. Kuo**, *J. Mori*, *L. Xue*, *E. E. Brodsky*, *K. Yun* and *Z. Gong*, 2015. Progress in the study of the Wenchuan Earthquake Faulting. *Acta Geoscientica Sinica*, 36(3), p.257-269, doi: 10.3975/cagsb.2015.03.01
 - **Kuo, L. W.*** and *S. R. Song*, 2014. Characteristics of clay minerals in principal slip zone of an active fault: A case study from the Taiwan Chelungpu fault Drilling Project: Invited chapter in Jorge Sanjurjo-Sánchez, eds., hardcover edited collection "Clays and Clay Minerals: Geological Origin, Mechanical Properties and Industrial Applications": Nova Science Publishers Inc., p.297-333. ISBN: 978-1-63117-779-8.
 - *Si, J.*, *H. Li*, **L. W. Kuo**, *J. Pei*, *S. R. Song* and *H. Wang*, 2014. Clay mineral anomalies in the Yingxiu-Beichuan fault zone from the WFSD-1 drilling core and its implication for the faulting mechanism during the 2008 Wenchuan earthquake (Mw 7.9). *Tectonophysics*, 619-620, p. 171-178.
 - **Kuo, L. W.***, *H. Li*, *S. Smith*, *G. Di Toro*, *J. Suppe*, *S. R. Song*, *S. Nielsen*, *H. S. Sheu* and *J. Si*, 2014. Gouge graphitization and dynamic fault weakening during the 2008 Mw 7.9 Wenchuan earthquake. *Geology*, 42, p.47-50, doi: 10.1130/G34862.1.