Yi-Hsuan Wu

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Research Interests

- Statistical Physics of Earthquakes
- Earthquake Physics
- Numerical modeling
- Earthquake Forecasting

Education

- 2010: Ph.D., Graduate Institute of Geophysics, National Central University, Jhongli, Taoyuan, Taiwan, ROC
- 2006: M.S., Graduate Institute of Geophysics, National Central University, Jhongli, Taoyuan, Taiwan, ROC
- 2004: B.S., Department of Earth Sciences, National Central University, Jhongli, Taoyuan, Taiwan, ROC

Experiences

- Coordinator of resident service, National Housing and Urban Regeneration Center 2019/04 — 2019/07
- Postdoctoral, Center of Earthquake-Disaster & Risk Evaluation and Management 2018/07 — 2018/10
- Postdoctoral, Department of Earth Sciences, National Central University 2017/08 — 2018/06
- Assistant research scholar, Ministry of Science and Technology (Located in NCU) 2014/08 — 2017/07
- Postdoctoral, Department of Earth Sciences, National Central University 2013/02 — 2014/07
- Postdoctoral, Geology Department, UC Davis 2012/02 — 2013/02
- Postdoctoral, Institute of Earth Science, Academia Sinica, 2010/07 — 2012/02
- Teaching assistant (part time), Center for General Education, National Central

University, 2007/09 — 2008/02
- Teaching assistant (part time), Department of Earth Sciences, National Central University, 2004/09 — 2006/06, 2006/09 — 2007/02, 2007/09 — 2008/02, 2008/09 — 2009/02

Honors
- Fellow of the Phi Tau Phi Scholastic Honor Society of the Republic of China, 2010
- Graduate Student Outstanding Research Award of National Central University, ROC, 2008, 2009

Membership
- American Geophysical Union
- European Geosciences Union
- Computational Infrastructure for Geodynamics
- Chinese Taipei Geophysical Society
- Society of Exploration Geophysicists

Projects
- 2014/08 — 2018/07 建構在斷層系統上之台灣地震模型(Virtual Taiwan - A model for studying the interaction of fault and generating simulated earthquakes)

Publications
- Theses
  [1] **Wu, Y.-H.** (2010). Precursory seismicity patterns examined by improved pattern informatics method, Ph. D. Dissertation, National Central University, Jhongli, Taiwan, ROC.
  [2] **Wu, Y.-H.** (2006). Investigating the precursory phenomena of the Chi-Chi earthquake using RTL algorithm (in Chinese), M.S. Thesis, National Central University, Jhongli, Taiwan, ROC.
- Refereed papers
  [1] **Wu Y.-H.** (2019). Characteristic Magnitude and Spatiotemporal relationship of Seismicity. (in preparation)
  [2] Wen Y.-Y., C.-C. Chen, **Y.-H. Wu**, C.-H. Chan, Y.-J. Wang and Y.-L. Yeh (2016), Spatiotemporal investigation of seismicity and Coulomb stress variations prior to the 2010 ML6.4 Jiashian, Taiwan earthquake, *Geophys. Res. Lett.*, 43, 8451–8457, doi:10.1002/2016GL070633.

[3] **Wu Y.-H.**, H.-C. Li and C.-C. Chen (2016). Conditional Probabilities for Large Events Estimated by Small Earthquake Rate, *Pure Appl. Geophys.*, 173, 183– 196, DOI: 10.1007/s00024-014-1019-0.

[4] Chang L.-Y., C.-C. Chen, **Y.-H. Wu**, T.-W. Lin, C.-H. Chang and C.-W. Kan (2016). A Strategy of Routine Pattern Informatics Operation Applied to Taiwan, *Pure Appl. Geophys.*, 173, 235–244, doi: 10.1007/s00024-015-1079-9.

[5] **Wu Y.-H.,** J. B. Rundle and C.-C. Chen (2015). Critical Parameters Estimate for Earthquake Forecast by PI Migration, *Nat. Hazards*, 76, 1357–1371, doi: 10.1007/s11069-014-1553-1.

[6] Kawamura M., **Y.-H. Wu**, T. Kudo, and C.-C. Chen (2014). A statistical feature of anomalous seismic activity prior to large shallow earthquakes in Japan revealed by the pattern informatics method, *Nat. Hazards Earth Syst. Sci.*, 14, 849-859, doi:10.5194/nhess-14-849-2014.

[7] **Wu Y.-H.,** C.-C. Chen, D. L. Turcotte and J. B. Rundle (2013). Quantifying the Seismicity on Taiwan, *Geophys. J. Int.*, 194, 465–469, doi: 10.1093/gji/ggt101.

[8] Kawamura M., **Y.-H. Wu**, T. Kudo and C.-C. Chen (2013). Precursory Migration of Anomalous Seismic Activity Revealed by the Pattern Informatics Method: A Case Study of the 2011 Tohoku Earthquake, Japan, *Bull. Seismol. Soc. Am.*, 103, 1171–1180. doi: 10.1785/0120120094.

[9] **Wu Y.-H.,** C.-C. Chen, J. B. Rundle and J.-H. Wang (2012). Regional Dependence of Seismic Migration Patterns, *TAO*, 23, 161–170. doi: 10.3319/TAO.2011.10.21.01(T)

[10] Wang J.-H., K.-C. Chen, S.-J. Lee, W.-G. Huang, **Y.-H. Wu** and P.-L. Leu (2012). The Frequency Distribution of Inter-Event Times of $M \geq 3$ Earthquakes in The Taipei Metropolitan Area: 1973 – 2010, *TAO*, 23, 269–281.

[11] **Wu Y.-H.,** C.-C. Chen and J. B. Rundle (2011). Precursory Small Earthquake Migration Patterns, *Terra Nova*, 00, 1–6, doi: 10.1111/j.1365-3121.2011.01021.x.

[12] **Wu Y.-H.,** C.-C. Chen and J. B. Rundle (2008). Detecting Precursory Earthquake Migration Patterns Using the Pattern Informatics Method, *Geophys. Res. Lett.*, 35, L19304, doi:10.1029/2008GL035215.

[13] **Wu, Y.-H.,** C.-C. Chen and J. B. Rundle (2008). Pattern Informatics Analysis of the Pingtung (Taiwan) Offshore Doublet Earthquakes on December 26, 2006, *TAO*, 19, 6, 743-749 doi: 10.3319/TAO.2008.19.6.743.

[14] Chen, C.-C. and **Y.-H. Wu** (2006). An Improved Region-Time-Length Algorithm Applied to the 1999 Chi-Chi, Taiwan Earthquake, *Geophys. J. Int.* 166:1144-1147.

- Conference papers

  [1] **Wu Y.H.** (2018), Spatiotemporal Relationship of Background and Triggered Earthquake, presented at 2018 15th Annual Meeting, AOGS, Honolulu, Hawaii, 3 Jun – 8 Jun.

  [2] Wen Y.Y., C.C. Chen, **Y.H. Wu**, C.H. Chan, Y.J. Wang, Y.L. Yeh (2015), Spatiotemporal detection of seismic quiescence prior to the 2010 M_L 6.4 Jiashian, Taiwan earthquake, Abstract T43A-2973 presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec.

  [3] **Wu Y.H.** (2014), Forecast probabilities for large events estimated by earthquake deficits, Abstract NG33B-3836 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.

  [4] Kawamura M., **Y.H. Wu**, T. Kudo, C. C. Chen (2014), Migration pattern of anomalous seismic activity prior to the 2011 Tohoku, Japan earthquake, Abstract SE25-A004 presented at 2014 11th Annual Meeting, AOGS, Royton Sapporo Hotel, Japan, 28 Jul – 1 Aug.

  [5] **Wu Y.H.,** J. H. Wang, C. C. Chen (2013), Dynamical modeling of earthquake rupture based on the 1D Burridge-Knopoff spring-block model with rate-and-state friction, Abstract T51C-2487 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 7-13 Dec.

  [6] **Wu Y.H.,** J. B. Rundle (2012), Implication of Migration Pattern For Critical Parameters, Abstract S13A-2519 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

  [7] **Wu Y.H.,** C.C. Chen, D. L. Turcotte, J. B. Rundle (2012), Quantifying the seismic risk on Taiwan with Gutenberg-Richter relation, presented at 2012 ACES 8th International Workshop, Maui, Hawaii, USA, 23-26 Oct.

  [8] **Wu Y.H.,** C.C. Chen, D. L. Turcotte, J. B. Rundle (2012), Quantifying the seismic risk on Taiwan with Gutenberg-Richter relation, presented at 2012 SCEC Annual Meeting, Palm Springs, California, USA, 9-12 Sep.

  [9] **Wu Y.H.,** C.C. Chen, J. B. Rundle, J.H. Wang (2011), Two-dimensional Pattern Informatics Method for Examining Precursory Earthquake Migration Patterns, Abstract SE73-A009 presented at 2011 8th Annual Meeting, AOGS, Taipei, Taiwan, 8-12 Aug.

  [10] **Wu Y.H.,** C.C. Chen, J. B. Rundle, J.H. Wang (2010), Precursory Seismic Migration Patterns Examined by Improved Pattern Informatics Method,

Abstract NG51A-1193 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

[11] **Wu Y.H.,** C.C. Chen and J. B. Rundle (2009). Detecting precursory earthquake migration patterns using the pattern informatics method, 2009 Annual Congress of Chinese Geophysical Society and Geological Society of Taiwan, National Chung Cheng University, Chiayi, Taiwan, ROC, S49-P.

[12] **Wu Y.H.,** C.C. Chen and J. B. Rundle (2009). Detecting precursory earthquake migration patterns using the pattern informatics method, 5th APRU Research Symp., National Taiwan University, Taipei, Taiwan, ROC, 24.

[13] **Wu Y.H.,** C.C. Chen and J. B. Rundle (2009). Detecting precursory earthquake migration patterns using the pattern informatics method, EGU, General Assembly 2009, Vienna, Austria, Abstract EGU2009-2173.

[14] **Wu, Y.H.,** C.C. Chen (2007). Pattern Informatics Analysis of the Pingtung (Taiwan) offshore doublet earthquakes with magnitude of 7 on December 26, 2006, Eos Trans., AGU, 88(52), Fall Meet. Suppl., Abstract NG41B-0518.

[15] **Wu, Y.H.,** C.C. Chen (2006). An improved region-time-length algorithm applied to the 1999 Chi-Chi, Taiwan earthquake, Eos Trans. AGU, 87(36), West. Pac. Geophys. Meet. Suppl., Abstract S11D-0145.

[16] **Wu, Y.H.,** C.C. Chen (2005). The 1999 Chi-Chi, Taiwan, earthquake as a typical example of seismic activation and quiescence: An application of the region-time-length algorithm. The 11th 地球物理學會年會, Taipei, Taiwan, ROC, 28-36.