



童忻 研究助技師

Hsin Tung Assistant Research Scientist

*Institute of Earth Sciences, Academia Sinica
128 Academia Road Sec. 2, Nankang Taipei, Taiwan
<https://www.earth.sinica.edu.tw/en>
<https://www.earth.sinica.edu.tw/en/member/detail/418>
Tel: +886 - 2 - 27839910 ext. 1320
E-mail: cuzn@earth.sinica.edu.tw*

EDUCATION

- 2019 : Ph.D.**, Department of Geosciences, National Taiwan University, Taipei, Taiwan. (GPA: 3.85/4)
- 2008 : M.S.**, Department of Geosciences, National Taiwan University, Taipei, Taiwan. (GPA: 4.0/4)
- 2006 : B.S.**, Department of Earth and Environmental Sciences, National Chung Cheng University, Chia-Yi, Taiwan. (GPA: 3.42/4)

WORK & ACADEMIC EXPERIENCE

2026/04-present: Assistant Research Scientist, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan.

Responsible for GNSS data processing and analysis, including the generation of multi-rate solutions for crustal deformation studies. I also contribute to seafloor geodesy (GNSS-A) data processing and interpretation. In addition, I support PI-led projects by providing GNSS displacement results and assisting in geodetic data integration and analysis.

2019/09-2026/03: Postdoctoral Fellow, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan.
Participated in research team led by Dr. Ya-Ju Hsu. I am taking charge of establishing a research platform to offer a fast service of GPS data processing and analysis for earth sciences research. Once a disaster earthquake occurred, SAR interferometry and GPS displacement will also be released immediately.

2014/02-2019/08: Ph.D. student/Research Assistant, Department of Geosciences, National Taiwan University, Taipei, Taiwan.
Participated in research team led by Dr. Jyr-Ching Hu; laboratory of geodesy and remote sensing. <http://www.gl.ntu.edu.tw/geodesy/>.

2008/08-2019/08: Research Assistant, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan.
Participated in research team led by Dr. Horng-Yue Chen. I investigate crustal deformation pattern along the southern Longitudinal Valley Fault (LVF), an extremely active inverse fault considered as a collision boundary between the Eurasian and the Philippine Sea plates, by using SAR interferometry, GPS and precise leveling data.

2008/08-2009/03: Research Assistant, Department of Information management, Kainan University, Taoyuan, Taiwan.
Participated in research team led by Dr. Pu-Huai Chen. In this project, I focus on land subsidence from 1996 to 2000 in Yunlin area. Due to the dense vegetation, it is hard to get the time series distribution of land deformation by using conventional DInSAR technique. For that reason, I used the stacking DInSAR and PSInSAR technique to

complete the deformation variations.

- 2006/12-2008/12:** Research Assistant, Tainan Hydraulics Laboratory, National Cheng Kung University, Tainan, Taiwan.
Participated in research team led by Dr. Chung-Hong Song. I handled the ordering and scheme of all the images; processed and analyzed temporal and spatial variations of land subsidence from 1996 to 2000 in Taiwan by DInSAR.

PUBLICATIONS

Journal Article

1. Rajkumar, A. Canitano, H.-F. Lin, Y.-J. Hsu, **H. Tung**, and H.-M. Lee, Geodetic finite-fault rupture model of the February 4th 2018 Mw 6.2 Hualien earthquake (Taiwan) and its potential impact on the occurrence of the February 6th Mw 6.4 event, *Seismol. Res. Lett.* 2026, doi: 10.1785/0220250084.
2. Lu, C.-H. S.-Y. Huang, Y.-C. Hsu, I.-C. Yen, and **H. Tung** (2025), Fast Report: the 2025 M6.4 Dapu earthquake: preliminary field observation and surface deformation analysis. *Terr. Atmos. Ocean. Sci.*, 36, 14 (2025), doi: 10.1007/s44195-025-00099-5.
3. Chen, Y.-C., Y. N. Lin, T.-A. Teo, C.-Y. Chen, T.-Y. Shih, and **H. Tung** (2025), Enhancing urban resilience through Tomo-PSInSAR-based structural health monitoring, *GISci. Remote Sens.*, 62(1), 2482329, doi: 10.1080/15481603.2025.2482329.
4. **Tung, H.**, H.-Y. Chen, Y.-J. Hsu, C.-H. Tang, J.-C. Lee, Y. Wang, and H. K. Lee (2025), Geodetic constraints on the September 2022 Guanshan and Chihshang earthquakes, eastern Taiwan, *Tectonophysics*, 895, 230600, doi: 10.1016/j.tecto.2024.230600.
5. Lin, C. D. J., Y. M. Wu, **H. Tung**, and H. H. Huang (2024), Coseismic Deformation and Interaction of the 2022 ML 6.6 Guanshan and ML 6.8 Chihshang Earthquakes in Southeastern Taiwan Revealed by StrongMotion Data. *Seismol. Res. Lett.*, 96(1), 52-64, doi: 10.1785/0220240130.
6. Yang, Y.-H., L. Li, J.-C. Hu, **H. Tung**, Q. Xu, X. Li, X. Fan, Z. Yao, Q. Xu, Q. Chen, and M.-C. Tsai (2024), Double-Vergent Plate Boundary Faults and Triggered Coseismic Rupture of the 2022 Chihshang Doublet Earthquake Occurred in Eastern Taiwan, *Seismol. Res. Lett.*, 95(4), 2081-2091, doi: 10.1785/0220230026.
7. Tang, C.-H., Y. N. Lin, **H. Tung**, Y. Wang, S.-J. Lee, Y.-J. Hsu, J. B. H. Shyu, Y.-T. Kuo, and H.-Y. Chen (2023), Nearby fault interaction within the double-vergence suture in eastern Taiwan during the 2022 Chihshang earthquake sequence. *Commun Earth Environ*, 4(1), 333, doi: 10.1038/s43247-023-00994-0.
8. Chen, H.-Y., Y.-J. Hsu, R. Ikuta, **H. Tung**, C.-H. Tang, C.-S. Ku, H.-H. Su, P.-R. Jian, M. Ando, and T. Tsujii (2022), Strain Partitioning in the Southern Ryukyu Margin Revealed by Seafloor Geodetic and Seismological Observations, *Geophys. Res. Lett.* 49(6), e2022GL098218, doi: 10.1029/2022GL098218.
9. Chen, H.-Y., J.-C. Lee, **H. Tung**, C.-L. Chen, and H. K. Lee (2021), Variable vertical movements and their deformation behaviors at convergent plate suture: 14-year-long (2004-2018) repeated measurements of precise leveling around middle Longitudinal Valley in eastern, *J. Asian Earth Sci.*, 218, 104865, doi: 10.1016/j.jseaes.2021.104865.
10. Chen, H.-Y., R. Ikuta, Y.-J. Hsu, T. Tsujii, M. Ando, Y. Tu, T. Kohmi, K. Takemoto, K. Mizuno, **H. Tung**, C.-S. Ku, and C.-H. Lin (2021), A Decade of Global Navigation Satellite System/Acoustic Measurements of Back-Arc Spreading in the Southwestern Okinawa Trough, *Frontiers in Earth Science*, 9, 601138, doi: 10.3389/feart.2021.601138.

11. Zhao, D., C. Qu, X. Shan, R. Bürgmann, W. Gong, **H. Tung**, G. Zhang, X. Song, and X. Qiao (2020), Multi-fault complex rupture and afterslip associated with the 2018 Mw6.4 Hualien earthquake in northeastern Taiwan. *Geophys. J. Int.*, 224(1), 416-434, doi: 10.1093/gji/ggaa474.
12. Chen, H.-Y., **H. Tung**, Y.-J. Hsu, and H.K. Lee (2020), Evaluation of Single-frequency Receivers for Studying Crustal Deformation at the Longitudinal Valley Fault, Eastern Taiwan, *Survey Review*, 52(374), 454-462, doi: 10.1080/00396265.2019.1634340.
13. **Tung, H.**, H.-Y. Chen, Y.-J. Hsu, J.-C. Hu, Y.-H. Chang, and Y.-T. Kuo (2019), Triggered slip on multifaults after the 2018 Mw 6.4 Hualien earthquake by continuous GPS and InSAR measurements. *Terr. Atmos. Ocean. Sci.*, 30(3), 285-300, doi: 10.3319/TAO.2019.04.03.01.
14. Kuo, Y.-T., Y. Wang, J. Hollingsworth, S.-Y. Huang, R. Y. Chuang, C.-H. Lu, Y.-C. Hsu, **H. Tung**, J.-Y. Yen, and C.-P. Chang (2018), Shallow Fault Rupture of the Milun Fault in the 2018 Mw 6.4 Hualien Earthquake: A High-Resolution Approach from Optical Correlation of Pléiades Satellite Imagery. *Seismol. Res. Lett.*, 90(1), 97-107, doi: 10.1785/0220180227.
15. Yang, Y.-H., J.-C. Hu, **H. Tung**, M.-C. Tsai, Q. Chen, Q. Xu, Y.-J. Zhang, J.-J. Zhao, G.-X. Liu, J.-N. Xiong, J.-Y. Wang, B. Yu, C.-Y. Chiu, and Z. Su (2018), Co-Seismic and Postseismic Fault Models of the 2018 Mw 6.4 Hualien Earthquake Occurred in the Junction of Collision and Subduction Boundaries Offshore Eastern Taiwan. *Remote Sensing*, 10(9), 1372, doi: 10.3390/rs10091372.
16. Kuo, Y.-T., C.-S. Ku, Y.-G. Chen, Y. Wang, Y.-N. N. Lin, R. Y. Chuang, Y.-J. Hsu, F. W. Taylor, B.-S. Huang, and **H. Tung** (2016), Characteristics on fault coupling along the Solomon megathrust based on GPS observations from 2011 to 2014. *Geophys. Res. Lett.*, 43(16), 8519-8526, doi: 10.1002/2016GL070188.
17. Huang, M.-H., **H. Tung**, E. J. Fielding, H.-H. Huang, C. Liang, C. Huang, and J.-C. Hu (2016), Multiple fault slip triggered above the 2016 M_w 6.4 MeiNong earthquake in Taiwan. *Geophys. Res. Lett.*, 43(14), 7459-7467, doi: 10.1002/2016GL069351.
18. **Tung, H.**, H.-Y. Chen, J.-C. Hu, K.-E. Ching, H. Chen, and K.-H. Yang (2016), Transient deformation induced by groundwater change in Taipei metropolitan area revealed by high resolution X-band SAR interferometry. *Tectonophysics*, 692, 265-277, doi: 10.1016/j.tecto.2016.03.030.
19. Chen, H.-Y., L.-C. Kuo, J.-C. Lee, **H. Tung**, S.-H. Su, S.-S. Yao, and H. Lee (2015), Reducing distance dependent bias in low-cost single frequency GPS network to complement dual frequency GPS stations in order to derive detailed surface deformation field. *Survey Review*, 47(340), 7-17, doi: 10.1179/1752270614Y.0000000095.
20. Wu, Y.-Y., J.-C. Hu, G.-P. Lin, C.-P. Chang, **H. Tung**, and C.-H. Lu (2013), Transient active deformation in Tainan tableland using persistent scatterers SAR interferometry. *Bulletin de la Societe Geologique de France*, 184(4-5), 441-450, doi: 10.2113/gssgfbull.184.4-5.441.
21. Chen, H.-Y., J.-C. Lee, **H. Tung**, S.-B. Yu, Y.-J. Hsu, and H. Lee (2013), A new velocity field from a dense GPS array in the southernmost Longitudinal Valley, southeastern Taiwan. *Terr. Atmos. Ocean. Sci.*, 24(5), 837-862, doi: 10.3319/TAO.2013.06.18.01(T).
22. **Tung H.** and J.-C. Hu (2012), Assessments of serious anthropogenic land subsidence in Yunlin County of central Taiwan from 1996 to 1999 by Persistent Scatterers InSAR. *Tectonophysics*, 578, 126-135, doi: 10.1016/j.tecto.2012.08.009.
23. **Tung, H.**, C.-S. Hsieh, and J.-C. Hu (2012), Detecting terrain deformation in southern Taiwan with persistent scatterer radar interferometry. *Special Publication of the Central Geological Survey, MOEA*, 26, 1-15. (in Chinese)

24. Chen, H.-Y., J.-C. Lee, **H. Tung**, S.-B. Yu, Y.-J. Hsu, and H. Lee (2012), Determination of vertical velocity field of southernmost Longitudinal Valley in eastern Taiwan: A joint analysis of leveling and GPS measurements. *Terr. Atmos. Ocean. Sci.*, 23(4), 355, doi: 10.3319/TAO.2012.02.29.01.
25. Chen, H.-Y. S.-B. Yu, **H. Tung**, T. Tsujii, and M. Ando (2011), GPS medium-range kinematic positioning for the seafloor geodesy off eastern Taiwan. *Engineering Journal*, 15(1), 17-24, doi: 10.4186/ej.2011.15.1.17.
26. Hsieh, C.-S., T.-Y. Shih, J.-C. Hu, **H. Tung**, M.-H. Huang, and J. Angelier (2011), Using differential SAR interferometry to map land subsidence: A case study in the Pingtung Plain of SW Taiwan. *Natural Hazards*, 58(3), 1311-1332.

Thesis

1. **Tung, H.**, 2019. Space-based geodetic observation in understanding surface deformation and earthquakes. Ph.D. Thesis, National Taiwan University, Taipei, Taiwan, R.O.C., doi: 10.6342/NTU201903897.
2. **Tung, H.**, 2008. Analysis of surface deformation based on PS-InSAR technique: Case studies in coastal plain, SW Taiwan. *M.S. Thesis*, National Taiwan University, Taipei, Taiwan, R.O.C.

Conference abstracts

1. **Tung H.**, H.-Y. Chen, Y.-J. Hsu, C.-H. Tang, J.-C. Lee, Y. Wang (2025) " Geodetic constraints on the September 2022 Guanshan and Chihshang earthquakes, eastern Taiwan ", *JpGU Meeting 2025*, Chiba, Japan, SGD01-P04.
2. **Tung H.**, H.-Y. Hsu, H.-Y. Chen, Y. N. Lin, Y. Wang, and C.-H. Tang (2024), "Unraveling the rupture source of the 2024 M7.2 Hualien earthquake using geodetic and seismic data", *AGU Fall Meeting 2024*, Washington, D.C., USA, NH31G-2180.
3. **Tung H.**, Y.-J. Hsu, H.-Y. Chen, R. Ikuta, C.-S. Ku, C.-H. Tang, P.-R. Jian, and M. Ando (2023), "Current status of GNSS/Acoustic seafloor observation in Taiwan", *AGU Fall Meeting 2014*, San Francisco, CA, USA, G43B-0491.
4. **Tung H.**, H.-Y. Chen, Y. Wang, J.-C. Lee, and Y.-J. Hsu (2023), "Afterslip displacement determined by GPS and precise leveling on 17 and 18 September 2022, M_L 6.6 and M_L 6.8 Guanshan and Chihshang earthquakes, Taiwan", *Taiwan Geosciences Assembly*, Taoyuan, Taiwan.
5. **Tung H.**, Y. N. Lin, and C.-Y. Liu (2022), "Assimilation of Cloud-top Properties and GNSS Delays for InSAR Tropospheric Correction", *Taiwan Geosciences Assembly*, Taipei, Taiwan.
6. **Tung H.**, H.-Y. Chen, Y.-J. Hsu, W.-T. Liang, and R.-J. Rau, (2021), "Taiwan Geodetic Model - GNSS data processing and observation results sharing platform", *Taiwan Geosciences Assembly*, Taipei, Taiwan.
7. **Tung, H.**, H.-Y. Chen, Y.-J. Hsu, R. Ikuta, C.-S. Ku, H.-H. Su, C.-H. Tang, M. Ando, and T. Tsujii (2020), "Crustal deformation at westernmost Ryukyu Trench revealed by GNSS and GNSS/Acoustic seafloor data", *Taiwan Geosciences Assembly*, Taipei, Taiwan.
8. **Tung H.**, and H.-Y. Chen (2018), "Instant GPS analysis platform established for GPS data processing and observation results sharing ", *AGU Fall Meeting 2018*, Washington, D.C., USA, G51D-0507.
9. **Tung H.**, H.-Y. Chen, J.-C. Hu, and Y.-J. Hsu (2018), "Coseismic displacements and ground motion recorded by GNSS and DInSAR data on Feb. 6, 2018 Hualien earthquake, Taiwan ", *Taiwan Geosciences Assembly*, Chaoyi, Taiwan.
10. **Tung H.**, H.-Y. Chen, Y.-J. Hsu, and J.-C. Hu (2016), "Coseismic deformation of the 2016 Meinong

earthquake revealed from GNSS and InSAR data", *Taiwan Geosciences Assembly*, Taipei, Taiwan.

11. **Tung H.**, H.-Y. Chen, and J.-C. Hu (2014), "Analysis of ground displacements in Taipei area by using high resolution X-band SAR interferometry", *AGU Fall Meeting 2014*, San Francisco, CA, USA, G31A-0395.
12. **Tung H.**, H.-Y. Chen, J.-Y. Yen, and C.-P. Chen (2013), "Surface Deformation Analysis of Active Faults revealed by PSInSAR observations and Geodetic Data in Southern Part of the Taitung Longitudinal Valley, Eastern Taiwan", *Asia Oceania Geosciences Society 2013*, Brisbane, Australia, SE01-23-24-A002.
13. **Tung H.**, H.-Y. Chen, J.-C. Lee, and J.-Y. Yen (2011), "Utilize InSAR technique to determine the vertical inter-seismic displacement in southeastern Taiwan", *AGU Fall Meeting 2011*, San Francisco, CA, USA, G23A-0833.
14. **Tung H.**, M.-H. Huang, J.-C. Hu, K.-E. Ching, R.-J. Rau, C.-S. Hsieh, E. Pathier, and B. Deffontaines (2009), "Active deformation of Tainan Tableland of southwestern Taiwan based on geodetic measurements and SAR interferometry", *10eme Anniversaire du Prix Scientifique Franco-Taiwanais*, Taipei, Taiwan.
15. **Tung H.**, H.-Y. Chen, and J.-C. Hu (2009), "Surface Deformation Analysis of the Active Faults revealed by InSAR observations and Geodetic Data in Southern Part of the Taitung Longitudinal Valley, Eastern Taiwan", *EGU General Assembly 2009*, Vienna, Austria, XY490.
16. **Tung H.**, M.-H. Huang, and J.-C. Hu (2008), "Surface deformation analysis using persistent scatterers InSAR technique: a case study in Tainan Tableland, southwestern Taiwan", *Asia Oceania Geosciences Society 2008*, Busan, Korea, SE88-A003.
17. **Tung H.**, M.-H. Huang, and J.-C. Hu (2008), "Monitoring of Active Deformation Based on Persistent Scatterers InSAR Technique: A Case Study in Tainan Tableland, Southwestern Taiwan", *Geological Annual Congress*, Tainan, Taiwan, G1-B70.
18. **Tung H.**, J.-Y. Yen, and J.-C. Hu (2008), "Surface deformation analysis using persistent scatterers technique: a case study of southwestern Taiwan area", *EGU General Assembly 2008*, Vienna, Austria, XY0390.
19. **Tung H.**, M.-H. Huang, J.-C. Hu, G. Cooksley, J. Duro, A. Arnaud, B. Fruneau, and B. Deffontaines (2006), "Crustal deformation revealed from persistent scatterer SAR interferometry in SW Taiwan", *AGU Fall Meeting 2006*, San Francisco, CA, USA, T33D-0535.

RESEARCH INTERESTS

Geodesy and Remote sensing

Crustal deformation

Seafloor Geodesy

TRAINING

2019/07 GNSS-Inferred Positioning System (GipsyX) Course, JPL, Pasadena, USA.

2017/10 InSAR atmospheric correction, School of Engineering, Newcastle University, Newcastle upon Tyne, UK.

2016/08 InSAR Theory & Processing with ISCE, GIANt, and StaMPS, UNAVCO, Boulder, USA.

CURRICULUM VITAE

Hsin Tung
1983/11/03

2016/02 FRAM-SBAS processing, Institute of crustal stress, China Earthquake Administration, Beijing, China.

2016/01 GAMMA processing, Disaster Prevention Research Institute (DPRI), Kyoto University, Kyoto, Japan.

2015/09 GAMIT/GLOBK/TDEFNODE Workshop, Abastumani Astrophysical Observatory, Georgian.

2015/06 NSBAS processing, ISTerre, Grenoble-Alpes University, Grenoble, France.

TECHNICAL SKILLS

GPS data processing:

GIPSY/OASIS, GIPSYX, GAMIT/GLOBK/TRACK, RTKLIB.

InSAR/PSInSAR processing:

Diapason, StaMPS, ROI_PAC, Doris, ISCE, NSBAS, FRAM-SBAS, GAMMA.

Geodesy data analysis:

Leveling, Seafloor geodesy data.

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