

Ruey-Juin Rau  
Associate Professor  
Department of Earth Sciences  
National Cheng Kung University  
Tainan, Taiwan 701  
886-6-2757575-65425 (tel), 886-6-2740285 (fax)  
e-mail: raurj@mail.ncku.edu.tw

## CURRICULUM VITAE

### EDUCATIONS:

- 1979 - 1983 National Central University, Taiwan, B. S., Geophysics, 1983.  
1989 - 1992 State University of New York at Binghamton, New York, USA, Master,  
Geophysics, 1992. Thesis: Flexure modeling and Taiwan tectonics.  
1992 - 1996 State University of New York at Binghamton, New York, USA, Ph.D.,  
Geophysics, 1996. Dissertation: 3-D seismic tomography, focal mechanisms,  
and Taiwan orogeny.

### APPOINTMENTS:

- 2008/02 – present Associate Professor, Department of Earth Sciences, National Cheng  
Kung University, Tainan, Taiwan.  
2000/08 – 2008/01 Assistant Professor, Department of Earth Sciences, National Cheng  
Kung University, Tainan, Taiwan.  
1999/08 – 2000/07 Assistant Researcher, Satellite Geoinformatics Research Center,  
National Cheng Kung University, Tainan, Taiwan.  
1996/10 – 1999/07 Post-doctoral research fellow, Institute of Earth Sciences, Academia  
Sinica, Taiwan.

### PUBLICATIONS:

1. Rau, R.-J. and F. T. Wu, Tomographic imaging of lithospheric structures under Taiwan,  
**Earth and Planetary Science Letters**, 133, 517-532, 1995.
2. Wang, C.-Y., A. Ellwood, F. T. Wu, R.-J. Rau and H.-Y. Yen, Mountain-building in  
Taiwan and the critical wedge model in “Subduction: Top to bottom” G. E. Bebout,  
D. W. Scholl, S. H. Kirby, and J. P. Platt (Editors), **AGU Geophysical Monograph**  
**96**, 49-55, 1996.
3. Rau, R.-J., F. T. Wu and T. C. Shin, Regional network focal mechanism determination  
using 3-D velocity model and SH/P amplitude ratio, **Bulletin of Seismological**  
**Society of America**, 86, 1270-1283, 1996.
4. Wu, F. T., R.-J. Rau and D. H. Salzberg, Taiwan orogeny: Thin-skinned or lithospheric  
collision, **Tectonophysics**, 274, 191-220, 1997.
5. Rau, R.-J. and F. T. Wu, Active tectonics of Taiwan orogeny from focal mechanisms of  
small-to-moderate-sized earthquakes, **TAO**, 9, 755-778, 1998.
6. Wu, F. T. and Rau, R.-J., Seismotectonics and identification of potential seismic source

- zones in Taiwan, **TAO**, 9, 739-754, 1998.
7. Kao, H. and Rau, R.-J., Detailed structures of the subducted Philippine sea plate beneath northeast Taiwan: A new type of double seismic zone, **Journal of Geophysical Research**, 104, 1015-1033, 1999.
  8. Lin, C.-H., B.-S. Huang and R.-J. Rau, Seismological evidence for a low-velocity layer within the subducted slab of southern Taiwan, **Earth and Planetary Science Letters**, 174, 231-240, 1999.
  9. Rau, R.-J., W.-T. Liang, H. Kao and B.-S. Huang, Shear wave anisotropy beneath the Taiwan orogen, **Earth and Planetary Science Letters**, 177, 177-192, 2000.
  10. Yang, M., R.-J. Rau, J.-Y. Yu and T.-T. Yu, Geodetically observed surface displacements of the 1999 Chi-Chi, Taiwan, earthquake, **Earth Planets Space**, 52, 403-413, 2000.
  11. Kao, H., R. Gao, R.-J. Rau, D. Shi, R.-Y. Chen, Y. Guan and F. T. Wu, Seismic image of the Tarim Basin and its collision with Tibet, **Geology**, 29, 575-578, 2001.
  12. Lee, J.-C., H.-T. Chu, J. Angelier, Y.-C. Chan, J.-C. Hu, C.-Y. Lu and R.-J. Rau, Geometry and structure of northern surface ruptures of the 1999 Mw=7.6 Chi-Chi, Taiwan earthquake: Influence from inherited fold belt structures, **Journal of Structural Geology**, 24, 173-192, 2002.
  13. Lee, J.-C., J. Angelier, H.-T. Chu, J.-C. Hu, F.-S. Jeng and R.-J. Rau, Active fault creep variations at Chihshang, Taiwan, revealed by creepmeter monitoring, 1998-2001, **Journal of Geophysical Research**, 108, NO. B11, 2528, doi:10.1029/2003JB002394, 2003.
  14. Teng, L. S., Rau, R.-J., Lee, C.-T., Liu, C.-S., and Chen, W.-S., Faulting in southwestern Taiwan, **Western Pacific Earth Sciences**, Vol. 5, 97-128, 2005.
  15. Huang, M.-H., Hu, J.-C., Hsieh, C.-S., Ching, K.-E., Rau, R.-J., Pathier, E., Fruneau, B., and Deffontaines, B., A growing structure near the deformation front in SW Taiwan as deduced from SAR interferometry and geodetic observation, **Geophysical Research Letters**, Vol. 33, L12305, doi:10.1029/2005GL025613, 2006.
  16. Lee, Y.-H., Chen, H.-S., Rau, R.-J., Chen, C.-L., and Hung, P.-S., Revealing surface deformation of the 1999 Chi-Chi earthquake using high-density cadastral control points in the Taichung area, central Taiwan, **Bulletin of Seismological Society of America**, Vol. 96, No. 6, 2431-2440, doi:10.1785/0120060055, 2006.
  17. Huang, B.-S., Huang, W.-G., Liang, W.-T., Rau, R.-J., and Hirata, N., Anisotropy beneath an active collision orogen of Taiwan: Results from across islands array observations, **Geophysical Research Letters**, Vol. 33, L24302, doi:10.1029/2006GL027844, 2006.
  18. Hu, J.-C., Cheng, L.-W., Chen, H.-Y., Wu, Y.-M., Lee, J.-C., Chen, Y.-G., Lin, K.-C., Rau, R.-J., Kuochen, H., Chen, H.-H., Yu, S.-B., and Angelier, J., Coseismic deformation revealed by inversion of strong motion and GPS data: the 2003 Chengkung earthquake in eastern Taiwan, **Geophysical Journal International**, 169, 667-674, doi:10.1111/j.1365-246X.2007.03359.x, 2007.
  19. Ching, K.-E., Rau, R.-J.\*, and Zeng, Y., Coseismic source model of the 2003 Mw 6.8 Chengkung earthquake, Taiwan, determined from GPS measurements, **Journal of Geophysical Research**, 112, B06422, doi:10.1029/2006JB004439, 2007. (\* corresponding author)

20. Chen, K. H., Nadeau, R. M., and Rau, R.-J.\*, Towards a universal rule on the recurrence interval scaling of repeating earthquakes? **Geophysical Research Letters**, 34, L16308, doi:10.1029/2007GL030554, 2007. (\* corresponding author)  
(Chosen as an AGU Journal Highlight)
21. Ching, K.-E., Rau, R.-J.\*, Lee, J.-C., and Hu, J.-C., Contemporary deformation of tectonic escape in SW Taiwan from GPS observations, 1995-2005, **Earth and Planetary Science Letters**, 262, 601-619, doi:10.1016/j.epsl.2007.08.017, 2007. (\* corresponding author)
22. Hu, J.-C., Hou, C.-S., Shen, L.-C., Chan, Y.-C., Chen, R.-F., Huang, C., Rau, R.-J., Chen, K.H-H., Lin, C.-W., Huang, M.-H., and Nien, P.-F., Fault activity and lateral extrusion inferred from velocity field revealed by GPS measurements in the Pintung area of southwestern Taiwan, **Journal of Asian Earth Sciences**, 31, 287-302, doi:10.1016/j.jseaes.2006.07.020, 2007.
23. Gourley, J. R., Byrne, T., Chan, Y.-C., Wu, F., and Rau, R.-J., Fault geometries illuminated from seismicity in central Taiwan: Implications for crustal scale structural boundaries in the northern Central Range, **Tectonophysics**, 445, 168-185, doi:10.1016/j.tecto.2007.08.013, 2007.
24. Rau, R.-J.\*, Chen, K. H., and Ching, K.-E., Repeating earthquakes and seismic potential along the northern Longitudinal Valley fault of eastern Taiwan, **Geophysical Research Letters**, 34, L24301, doi:10.1029/2007GL031622, 2007. (\* corresponding author)
25. Chen, K. H., Toda, S., and Rau, R.-J.\*, A leaping, triggered sequence along a segmented fault: The 1951  $M_L$  7.3 Hualien-Taitung earthquake sequence in eastern Taiwan, **Journal of Geophysical Research**, 113, B02304, doi:10.1029/2007JB005048, 2008. (\* corresponding author)
26. Lee, Y.-H., Chen, G.-T., Rau, R.-J., and Ching, K.-E., Coseismic displacement and tectonic implication of 1951 Longitudinal Valley earthquake sequence, eastern Taiwan, **Journal of Geophysical Research**, 113, B04305, doi:10.1029/2007JB005180, 2008.
27. Rau, R.-J.\*, Ching, K.-E., Hu, J.-C., and Lee, J.-C., Crustal deformation and block kinematics in transition from collision to subduction: GPS measurements in northern Taiwan, 1995-2005, **Journal of Geophysical Research**, 113, B09404, doi:10.1029/2007JB005414, 2008.
28. Chen, K. H., Nadeau, R. M., and Rau, R.-J.\*, Characteristic repeating earthquakes in an arc-continent collision boundary zone: The Chihshang fault of eastern Taiwan, **Earth and Planetary Science Letters**, 276, 262-272, doi:10.1016/j.epsl.2008.09.021, 2008. (\* corresponding author)
29. Mozziconacci, L., Angelier, J., Delouie, B., Rau, R.-J., Bethoux, N., and Huang, B.-S., Focal mechanisms and seismotectonic stress in North Central Taiwan in relation with the Chi-Chi earthquake, **Tectonophysics**, 466, 409-426, doi:10.1016/j.tecto.2007.11.003, 2009. (SCI)
30. Huang, M.-H., Hu, J.-C., Ching, K.-E., Rau, R.-J., Hsieh, C.-S., Pathier, E., Fruneau, B., and Deffontaines, B., Active deformation of Tainan Tableland of southwestern Taiwan based on geodetic measurements and SAR interferometry, **Tectonophysics**, 466, 322-334, doi:10.1016/j.tecto.2007.11.020, 2009. (SCI)
31. Chen, K. H., Rau, R.-J.\*, and Hu, J.-C., Variability of repeating earthquake behavior

along the Longitudinal Valley fault zone of eastern Taiwan, **Journal of Geophysical Research**, 114, B05306, doi:10.1029/2007JB005518, 2009. (SCI) (\* corresponding author)

32. Chen, H.-C., Huang, Y.-S., Chiang, K.-W., Yang, M., and Rau, R.-J., The performance comparison between GPS and BeiDou-2/Compass: A perspective from Asia, **Journal of the Chinese Institute of Engineers**, 32, 5, in press, 2009. (SCI)
33. Hsieh, M.-L. and Rau, R.-J., Late Holocene coseismic uplift on the Hua-tung coast, eastern Taiwan: Evidence from mass mortality of intertidal organisms, **Tectonophysics**, doi:10.1016/j.tecto.2009.04.031, in press, 2009. (SCI)

#### 中文期刊

1. 饒瑞鈞，台灣東北部的三維震波速度影像，**地質**，18，42，1998。
2. 李建成、朱傲祖、安朔葉、胡植慶、余水倍、陳宏宇、鄭富書、林正洪、饒瑞鈞、周錦德、張勝雄、姜國彰，從地殼變形與斷層活動討論地震災害潛在性：花東縱谷池上活斷層的研究。**地質**，21卷，第二期，31-52，2002。
3. 李元希、盧詩丁、石同生、饒瑞鈞，集集地震南段地表破裂的變形機制—逆斷層-走向滑移斷層-走向滑移斷層板塊(TFF)三接點模式，**經濟部中央地質調查所彙刊**，第十五號，第 87-101 頁，2002。
4. 饒瑞鈞、景國恩、謝宗訓、余致義、侯進雄、李元希、胡植慶、詹瑜璋、李建成、洪日豪、林啟文，台南台地的地表變形與地震潛能，**經濟部中央地質調查所特刊**，十四號，147-156, 2003。
5. 林啟文、陳文山、饒瑞鈞，台灣活動斷層調查的近期發展，**經濟部中央地質調查所特刊**，十八號，85-110, 2007。
6. 蔡旻穎、景國恩、陳鶴欽、饒瑞鈞，台灣 GPS 連續觀測站坐標時間序列分析方法研究，**地籍測量**，26，4，1-24，2007。
7. 郭素妙、景國恩、饒瑞鈞、侯進雄，由1996-2006年之GPS資料探討台南地區地殼變形，**經濟部中央地質調查所特刊**，二十號，1-16, 2008。
8. 景國恩、饒瑞鈞、李建成、胡植慶、侯進雄，由1995-2005年之GPS觀測資料探討台灣西南部之地殼變形，**經濟部中央地質調查所特刊**，二十號，17-31, 2008。
9. 周侑德、景國恩、饒瑞鈞、劉啟清，精密水準觀測之資料品質及精度分析，**經濟部中央地質調查所特刊**，二十號，49-62, 2008。
10. 莊舒雲、陳鶴欽、景國恩、饒瑞鈞、侯進雄，由1996-2006年之GPS觀測資料看台灣中部地區集集地震前後之地殼變形，**經濟部中央地質調查所特刊**，二十號，63-80, 2008。
11. 楊佳勳、景國恩、饒瑞鈞、陳江鑫、侯進雄，由1995至2006年之GPS觀測資料探討潮州斷層與恆春斷層之活動行為，**經濟部中央地質調查所特刊**，二十號，81-96, 2008。
12. 邱詠恬、景國恩、侯進雄、胡植慶、饒瑞鈞，由2002-2006年之GPS觀測資料探討宜蘭平原之地殼變形，**經濟部中央地質調查所特刊**，二十號，111-124, 2008。
13. 陳鶴欽、饒瑞鈞、黃偉城、曾耀賢，運用 GPS 衛星定位監測彰化沿海地區地層下陷之研究，**地籍測量**，27，3，46-60，2008。

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