

# Ching-Chou Fu Assistant Research Fellow 傅慶州 助研究員

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研究領域: 氣(流)體地球化學、地震觀測 Research domain: Gas/fluid Geochemistry, Earthquake Observations

# 學歷 EDUCATION

- 2006.09 to 2012.07: Ph. D. Department of Geosciences, National Taiwan University (TAIWAN)
- 2002.09 to 2006.06: M.S. Department of Geosciences, National Taiwan University (TAIWAN)
- 1998.09 to 2002.06: B.S. Department of Geology, Chinese Culture University (TAIWAN)

# *經歷 Experiences*

- 2022.02 to 2025.07: Adjunct Assistant Professor, Department of Earth Sciences, National Central University
- <u>2021.07 to 2025.01</u>: Adjunct Assistant Professor, International Graduate Program For Earth System Science, National Taiwan University
- 2018.08 to now: Assistant Research Fellow, Institute of Earth Sciences, Academia Sinica
- 2014.02 to 2018.08: Postdoctoral Fellow, Institute of Earth Sciences, Academia Sinica
- 2014.01 to 2014.01: Postdoctoral Fellow, Institute of Oceanography, National Taiwan University
- 2012.09 to 2013.12: Postdoctoral Fellow, Energy Research Center, National Taiwan University
- 2012.07 to 2012.08: Postdoctoral Fellow, Institute of Oceanography, National Taiwan University
- 2010.09 to 2011.09: Visiting student, National Institute of Geophysics and Volcanology Section of Palermo, Italy

# *榮譽* AWARDS

- 2023 Excellent Young Scholar Project, Title: Multidimensional active Chihshang fault of geo-inclusive observatory for exploring the relationship between the earthquake generating process and deep fluid circulation, NSTC 國科會優秀年輕學者研究計畫 (2023.08-2024.07)
- 2021 Journal TAO 2016-2020 Most Cited Article Award Fu et al. (2017)
- 2020 Excellent Young Scholar Project, Title: Imaging the seismic cycle and deep fluid with sophisticatedly equipped earthquake observatory, MOST 科技部優秀年輕學者研究計畫 (2020.08-2023.07)
- 2019 Chinese Academy of Sciences Taiwan Young Talent Programme, Visiting Researcher
- 2017 Postdoctoral Research Paper Award from the Ministry of Science and Technology, R.O.C.
- 2010 Ph.D. student research aboard fellowship, National Science Council, Taiwan

- 2007 Young Scientist Award from the 9th International Conference of Gas Geochemistry
- 2005 Dean's Award of College of Science, National Taiwan University

## 研究計畫 PROJECTS

2025-2026 Mobility Plus Project Proposal between IES And CAS: Integrating 3D 2025/01-2026/12 contactless positioning systems into a comprehensive geophysical monitoring network in Taiwan (Co-PI) 2024/08-2025/07 Multidimensional monitoring project explores the earthquake generating process associated with the Chihshang fault and the Central Range fault (PI, NSTC 113-2116-M-001-017-) Insight into the volcanic sources and potential impact in Taipei Metropolis (3/3) 2023/10-2024/09 (Co-PI, NSTC 112-2740-M-001-001-) 2023/08-2024/07 Multidimensional active Chihshang fault of geo-inclusive observatory for exploring the relationship between the earthquake generating process and deep fluid circulation (PI, NSTC 112-2628-M-001-005-) Insight into the volcanic sources and potential impact in Taipei Metropolis (2/3) 2022/10-2023/09 (Co-PI, NSTC 111-2740-M-001-001-) Origin of alkaline magmas: integrating analytical geochemistry and experimental petrology 2022/08-2023/10 (3/3) (Co-PI, NSTC 111-2116-M-001-031-) 2021/10-2023/03 Insight into the volcanic sources and potential impact in Taipei Metropolis (1/3)(Co-PI, MOST 110-2740-M-001-001-) 2021/08-2022/07 Application of geo-chemical techniques to know the characteristics of fluids circulating bodies in North East Taiwan and its tectonic significance (Co-PI, MOST 110-2116-M-492-003-) 2021/08-2022/07 Origin of alkaline magmas: integrating analytical geochemistry and experimental petrology (2/3) (Co-PI, MOST 110-2116-M-001-030-) Imaging the seismic cycle and deep fluid with sophisticatedly equipped earthquake 2020/08-2023/12 observatory (PI, MOST 109-2628-M-001-002-MY3) Origin of alkaline magmas: integrating analytical geochemistry and experimental petrology 2020/08-2021/07 (1/3) (Co-PI, MOST 109-2116-M-001-018-) Research of Earthquake Precursors in Taiwan: Multidisciplinary Observations and 2020/08-2021/07 Theoretical Model (Co-PI, MOST 109-2116-M-002-031-) Geochemical features bodies for origin and interactions of fluids circulating over the North 2020/08-2021/07 East Taiwan and its relationships with the tectonic settings (Co-PI, MOST 109-2116-M-492-007-) Exploring the characteristics of gas and fluid geochemistry around the active structures and 2019/06-2021/01 its tectonic implications: The region of southwestern Taiwan (PI, MOST 108-2116-M-001-024-)

## 專業經歷/服務 PROFESSIONAL EXPERIENCE/SERVICES

2015-present: Member of International Committee, International Conference of Gas Geochemistry (ICGG)

- 2019-2021: Professional Committee of Gas Geochemistry, Chinese Society for Mineralogy Petrology and Geochemistry
- 2019-2021: Coordinator of Colloquium, Institute of Earth Sciences, Academia Sinica
- 2021.08~ : Member of Editorial Board, Review Editor in Frontiers in Earth Science Solid Earth Geophysics
- 2021.11~: Member of Editorial Board, Review Editor in Frontiers in Earth Science Geohazards and Georisks
- 2021-2023: Director of the 86th board of Geological Society located in Taipei
- 2023-2025: Director of the 87th board of Geological Society located in Taipei
- 2023-2026: Director of the 17th board of Chinese Taipei Geophysical Society
- 2024 Topic editor (with Drs. Nemesio Perez, Giovanni Martinelli, George Papatheodorou, Yuji Sano, Arndt Schimmelmann, Yunpeng Wang, Heiko Woith, Galip Yüce and Guodong Zheng) – New Perspectives and Applications of Gas Geochemistry, International Journal of Earth Sciences
- 2024.12-present: Member of EMSEV bureau, Electromagnetic Studies of Earthquakes and Volcanoes (EMSEV) (ICGG) https://www.emsev-iugg.org/emsev/index.html

## Reviewer of manuscripts submitted to:

 Chemical Geology / Marine and Petroleum Geology / Terrestrial, Atmospheric and Oceanic Sciences (TAO)
 / AGU Geophysical Monograph / Soil Systems / Scientific Reports / Pure and Applied Geophysics / International Journal of Environmental Analytical Chemistry / Geofluids / Proceedings of the Japan Academy, Series B / Frontiers in Earth Science / Journal of Geochemical Exploration / Journal of Asian Earth Sciences

### **Reviewer of proposals submitted to:**

– Earth Observatory of Singapore (EOS), Singapore / National Science Foundation (NSF), USA / Ministry of Science and Technology (MOST), Taiwan / National Science and Technology Council (NSTC), Taiwan

### **Organizer of conference/workshop:**

- -109 Annual Conference of Chinese Taipei Geophysical Society & Geological Society Located in Taipei, Taipei, 2020
- 5th International Geo-hazards Research Symposium in memory of Prof. Tsanyao Frank Yang, 2016

### Session convener in:

- The 1st Symposium on Gas Isotope Technique and Geosciences Applications, Lanzhou, China, August 22-25, 2017, "Applications of stable isotope techniques to the studies of volcanoes and earthquake prediction"
- International Conference in commemoration of 20th Anniversary of the 1999 Chi-Chi Earthquake, Taipei, September 15-19, 2019, "Earthquake precursors and forecasting"
- Taiwan Geoscience Assembly, Nangang, May 14-17, 2019, "Geophysics, Exploration Geophysics, and Environmental Geophysics"; "Lithogeochemistry" & "Earthquake Precursors and Observational Seismology"
- 109 Annual Conference of Chinese Taipei Geophysical Society & Geological Society Located in Taipei, Taipei, November 17-18, 2020, "M5: Multidimensional Geophysical and Geochemical Observations for Earthquake Generation Process "
- 112 Annual Conference of Chinese Taipei Geophysical Society & Geological Society Located in Taipei, Taipei, May 17-18, 2023, "Student poster competition"

#### Society membership:

– Geological Society Located in Taipei (GST) / Chinese Taipei Geophysics Society (CGS) / American Geophysical Union (AGU) / Geochemical Society (GS) / Japan Geoscience Union (JpGU) / Asia Oceania Geosciences Society (AOGS) / Chinese Society for Mineralogy Petrology and Geochemistry (CSMPG)

## 受邀演講 INVITED TALKS

- 1. AGU Fall Meeting 2024, NH31E session: "Preseismic changes in gamma radiation associated with the 2024 M7.2 Hualien Earthquake in eastern Taiwan" (Invited poster)
- 2. National Hsinchu Senior High School, 2024: "大地的氣息-氣體地球化學在地科的應用".
- 3. Department of Earth and Environmental Sciences, National Chung Cheng University, 2024: "It is "MAGIC" for exploring the earthquake generation process".
- 4. 8th International Workshop on Earthquake Preparation Process 2024, Chiba, Japan, May 29-30, 2024: "A preliminary result of anomalous change in gamma rays during the 20240403 M7.2 Hualien Earthquake in eastern Taiwan"
- 5. The Japan Geoscience Union Meeting, Chiba, Japan, May 26-31, 2024: "Soil radon and ionospheric TEC anomalies before the 2022 M6.8 Chihshang Earthquake in eastern Taiwan"
- 6. Institute of Oceanography, National Taiwan University, 2024: "It is "MAGIC" for exploring the earthquake generation process: Current status and future scenarios.".
- 7. 7th International Workshop on Earthquake Preparation Process 2023, Chiba, Japan, May 24-25, 2023: "Multidimensional Active fault of Geo-Inclusive observatory - Chihshang (MAGIC) for exploring the earthquake generating process"
- 8. The Japan Geoscience Union Meeting, Chiba, Japan, May 21-26, 2023: "Soil gas degassing and hydrogeological changes before and after the 2022 M6.8 Chihshang Earthquake in eastern Taiwan"
- 9. Department of Geology, Chinese Culture University, 2023: "池上斷層多維尺度觀測計畫(MAGIC)探討地 震孕震過程之進展".
- 10. Taiwan Earthquake Center 6th Annual Meeting, 2022: "Multidimensional active fault of geo-inclusive observatory Center- Chihshang (MAGIC-Chihshang)".
- 11. Material and Chemical Research Laboratories, Industrial Technology Research Institute (Online), 2022: "Advances of gas geochemistry towards earthquake precursor research".
- 12. Department of Geology, Chinese Culture University, 2020: "Earth's outgoing longwave radiation variability prior to  $M \ge 6.0$  earthquakes in the Taiwan area during 2009-2019"
- 13. The 2nd Symposium on Gas Isotope Technique and Geosciences Applications, Lanzhou, China, September 8-11, 2019: "Exploring the release of radioactive gas in the volcanic area and its tectonic implications"
- 14. The Lanzhou Center for Oil and Gas Resources, Institute of Geology and Geophysics, CAS. Lanzhou, China, September 13, 2019: "Applications of gas geochemistry in geosciences".
- 15. 6th International Workshop on Earthquake Preparation Process 2019, Chiba, Japan, May 31 to June 1, 2019: "Changes in gas and fluid geochemistry in the Chelungpu fault zone before the 2013 M6.2 Nantou earthquake"
- 16. The 17th Annual Conference of the Chinese Society for Mineralogy, Petrology and Geochemistry, Zhejiang, Hangzhou, April 19-22, 2019: "Changes in gas and fluid geochemistry at the Taiwan Chelungpu Fault Borehole before the 2013 M6.2 Nantou earthquake"
- 17. Institute of Oceanography, National Taiwan University, 2018: "Progress in the application of gas geochemistry to earthquake precursor in Taiwan and its future scenarios"

- 18. The 17th Japan-Taiwan International Workshop on Hydrological and Geochemical Research for Earthquake Prediction, Tsukuba, Japan, September 4, 2018: "Changes in groundwater chemistry at the Taiwan Chelungpu Fault Borehole before the 2013 M6.2 Nantou earthquake"
- 19. Department of Earth Sciences, National Taiwan Normal University, 2018: "Progress in the application of gas geochemistry to earthquake precursor in Taiwan"
- 20. Institute of Applied Geosciences, National Taiwan Ocean University, 2017: "Observations of fluid and gas geochemistry for earthquake forecasting in Taiwan: Past, recent status and future scenarios"
- 21. The 1st Symposium on Gas Isotope Technique and Geosciences Applications, Lanzhou, China, August 22-25, 2017: "Gas geochemistry applied to earthquake precursor in Taiwan: Recent status and future scenarios" (Keynote Speech)
- 22. International Workshop on Earthquake Preparation Process 2017, Chiba, Japan, May 25-26, 2017: "Exploring the relationship between soil degassing and seismic activity by continuous radon monitoring in the Longitudinal Valley of eastern Taiwan"
- 23. The Japan Geoscience Union Meeting, Chiba, Japan, May 20-24, 2017: "Implications of radon and gamma rays in northern Taiwan"
- 24. The 15th Japan-Taiwan International Workshop on Hydrological and Geochemical Research for Earthquake Prediction, Tsukuba, Japan, September 7, 2016: "Temporal changes in gas geochemistry and gamma rays as a precursor of the 2016 M6.6 Meinong earthquake, southern Taiwan"
- 25. International Workshop on Earthquake Preparation Process 2016, Chiba, Japan, May 27-28, 2016: "Precursory gas geochemical and hydrogeological anomalies associated with the M6.2 Earthquake of 27 March 2013 in central Taiwan"
- 26. The Japan Geoscience Union Meeting, Chiba, Japan, May 22-26, 2016: "Precursory gas geochemical and gamma rays anomalies prior to the 2016 M6.4 Meinong earthquake, southern Taiwan"
- 27. Department of Earth Sciences, National Central University, 2016: "Fluids geochemistry for seismic precursory study in Taiwan"
- 28. 2016 International mini Workshop on Earthquake Precursors, Taiwan, January 20-21, 2016: "Radon and gamma rays anomalies observed in northern Taiwan: a possible connection with the seismicity near the subduction zone"
- 29. Department of Geology, Chinese Culture University, 2014: "Soil gas geochemistry for seismic precursory study in Taiwan"

## 著作 PUBLICATIONS

### Journal articles \*Corresponding author

- Chowdhury, S., Walia, V.\*, Lin, S.J., <u>Fu, C.C.</u> and Lee, H.F. (2025). Non-linear analysis of soil 222Rn time series recorded at Jiaosi in north-east Taiwan for possible earthquake precursor study. *Environmental Earth Sciences*, 84, 77. <u>https://doi.org/10.1007/s12665-025-12100-y</u> (SCI)
- <u>Fu, C.C.</u>\*, Jhuang, H.K., Ho, Y.Y., Tsai, T.C., Lee, L.C., Lin, C.H., Lin, C.R., Walia, V., and Lee, I.T. (2025) A study of lithosphere-ionosphere seismic precursors from detecting gamma-ray and total electron content anomalies prior to the 2018 ML6.2 Hualien earthquake in eastern Taiwan. *Remote Sensing*, 17(2), 188. <u>https://doi.org/10.3390/rs17020188</u> (SCI)
- Dang, M.Q., Hsu, F.H., Su, C.C.\*, Wang, S.J.\*, <u>Fu, C.C.</u>\*, and Lin, I.T. (2025) Investigation of seasonal variations in submarine groundwater discharge using radium isotopes under drought conditions in northwestern coastal Taiwan. *Journal of Hydrology*, 649, 132450. <u>https://doi.org/10.1016/j.jhydrol.2024.132450</u> (SCI)
- 4. Sun, W.F., Pan, S.Y., Huang, C.M., Guan, Z.K., Yen, I.C., Ho, C.W., Chi, T.C., Ku, C.S., Huang, B.S., <u>Fu</u>, <u>C.C.</u>, Kuo-Chen, H.\* (2024) Deep learning-based earthquake catalog reveals the seismogenic structures of

the 2022 M<sub>W</sub> 6.9 Chihshang earthquake sequence. *Terrestrial, Atmospheric and Oceanic Sciences*, 35, 5. https://doi.org/10.1007/s44195-024-00063-9 (SCI)

- Dang, M.Q., Wang, S.J.\*, <u>Fu, C.C.</u>, Truong, H.D. (2024) Coastal Flowing Artesian Wells and Submarine Groundwater Discharge Driven by Tidal Variation at TaiCOAST Site in Taoyuan, Taiwan. *Journal of Hydrology: Regional Studies*, 52, 101708. <u>https://doi.org/10.1016/j.ejrh.2024.101708</u> (SCI)
- Walia, V.\*, Kumar, A., Chowdhury, S. Lin, S.J., Lee, H.F., and <u>Fu, C.C.</u> (2023) Earthquake precursory study using decomposition technique: time series soil radon monitoring data from the San-Jie Station in Northern Taiwan. *Journal of Radioanalytical and Nuclear Chemistry*. <u>https://doi.org/10.1007/s10967-023-09187-7</u> (SCI)
- Walia, V.\*, Kumar, A., and <u>Fu, C.C.</u> (2023) Radon time series data for earthquake precursory studies in Taiwan: An overview. In: Sandeep, Kumar, P., Mittal, H., Kumar, R. (eds) *Geohazards. Advances in Natural and Technological Hazards Research*, 53. Springer, Singapore. https://doi.org/10.1007/978-981-99-3955-8 8
- Ma, Y., Ma, X.X.\*, Zhang, L., Xu, W., Li, X.Y., Lu, C.S., <u>Fu, C.C.</u>, and Zheng, G.D.\* (2022) Geochemical characteristics of geofluids in the Baiyanggou mud volcano group in the southern margin of the Junggar Basin. *GEOCHIMICA*, 51(4), 492-502. <u>10.19700/j.0379-1726.2022.04.011</u> (in Chinese with English abstract)
- Tsai, T.C., Jhuang, H.K.\*, Ho, Y.Y., Lee, L.C.\*, Su, W.C., Hung, S.L., Lee, K.H., <u>Fu, C.C.</u>, Lin, H.C., and Kuo, C.L. (2022) Deep learning of detecting ionospheric precursors associated with M ≥ 6.0 earthquakes in Taiwan. Earth and Space Science, 9(9), e2022EA002289 <u>https://doi.org/10.1029/2022EA002289</u> (SCI)
- Wang, X., Zheng, G.D.\*, Ma, X.X., Fortin, D., <u>Fu, C.C.</u>, Li, Q., Chelnokov, G.A., and Ershov, V. (2022) Chemical and isotopic features of seepage gas from mud volcanoes in southern margin of the Junggar Basin, NW China. *Applied Geochemistry*, 136, 105145. <u>https://doi.org/10.1016/j.apgeochem.2021.105145</u> (SCI)
- 11. Kumar, A., Walia, V.\*, Lin, S.J., and <u>Fu, C.C.</u> (2021) Radon monitoring in artesian wells at Mato-san area of south Taiwan for mud eruption studies. *Journal of the Geological Society of India*, 97, 1590-1592. <u>https://doi.org/10.1007/s12594-021-1917-6</u> (SCI)
- Kumar, A., Walia, V.\*, Mogili, S., and <u>Fu, C.C.</u> (2021) Improved semi-automatic approach to count the tracks on LR-115 film for monitoring of radioactive elements. *Applied Radiation and Isotopes*, 176, 109863. <u>https://doi.org/10.1016/j.apradiso.2021.109863</u> (SCI)
- <u>Fu, C.C.</u>\*, Lai, C.W., Yang, T.F., Hilton, D.R., Chen, C.H., Walia, V., Kumar, A., and Lee, L.C. (2021) An automatic system for continuous monitoring and sampling of groundwater geochemistry in earthquake-prone regions of SW Taiwan. *Frontiers in Earth Science* 9:635913. <u>https://doi.org/10.3389/feart.2021.635913</u> (SCI)
- 14. Dhar, S., Randhawa, S.S., Kumar, A.\*, Walia, V.\*, <u>Fu, C.C.</u>, Bharti, H., and Kumar, A. (2021) Decomposition of continuous soil–gas radon time series data observed at Dharamshala region of NW Himalayas, India for seismic studies. *Journal of Radioanalytical and Nuclear Chemistry*, 327, 1019-1035 <u>https://doi.org/10.1007/s10967-020-07575-x</u> (SCI)
- 15. <u>Fu, C.C.</u>\*, Lee, L.C., Ouzounov, D., and Jan, J.C. (2020) Earth's outgoing longwave radiation variability prior to  $M \ge 6.0$  earthquakes in the Taiwan area during 2009-2019. *Frontiers in Earth Science* 8:364. <u>https://doi.org/10.3389/feart.2020.00364</u> (SCI)
- Kumar, A., Walia, V.\*, Lin, S.J., and <u>Fu, C.C.</u> (2020) Real-time database for geochemical earthquake precursory research. *Natural Hazards*, 104, 1359-1369. <u>https://doi.org/10.1007/s11069-020-04220-4</u> (SCI)
- Walia, V.\*, Kumar, A., <u>Fu, C.C.</u>, Hong, W.L., and Yang, T.F., (2020) Study of Fault Traces in Taiwan Using Soil-Gas Geochemistry: An Overview. *Radon: Detection, Exposure and Control, NOVA SCIENCE PUBLISHERS*. 45-78.

- Fu, C.C.\*, Lee, L.C., Yang, T.F., Lin, C.H., Chen, C.H., Walia, V., Liu, T.K., Ouzounov, D., Giuliani, G., Lai, T.H., and Wang, P.K. (2019) Gamma ray and radon anomalies in northern Taiwan as a possible preearthquake indicator around the plate boundary. *Geofluids*, 2019, 4734513, 14 pages. doi.org/10.1155/2019/4734513 (SCI)
- 19. Kumar, A., Walia, V.\*, Sung, Y.C., Lin, S.J., <u>Fu, C.C.</u>, and Wen, K.L. (2018) Soil gas survey in and around Shanchiao fault of northern Taiwan for establishing continuous monitoring station. *Acta Geophysica*, 66(5), 1213-1221. (SCI)
- 20. Kumar, A., Walia, V.\*, Sung, Y.C., Lin, S.J., Lee, H.F., Lin, C.H., <u>Fu, C.C.</u>, and Chen, C-H. (2018) Integrated radon monitoring in Tatun Volcanic Areas of Northern Taiwan. *Terrestrial, Atmospheric and Oceanic Sciences*, 29(3), 1-13. (SCI)
- <u>Fu, C.C.</u>\* and L.C. Lee, (2018) Continuous monitoring of fluid and gas geochemistry for seismic study in Taiwan. Pre-Earthquake Processes: A Multidisciplinary Approach to Earthquake Prediction Studies, *Geophysical Monograph Series*, 234, 199-218.
- 22. Arora, B.R., Kumar, A., Walia, V.\*, Yang, T.F., <u>Fu, C.C.</u>, Liu, T.K., Wen, K-L., and Chen, C-H. (2017) Assessment of the Response of the Meteorological/Hydrological Parameters on the Soil Gas Radon Emission at Hsinchu, Northern Taiwan: A Prerequisite to Identify Earthquake Precursors. *Journal of Asian Earth Sciences*, 149, 49-63. (SCI)
- 23. <u>Fu, C.C.</u>, Walia, V.\*, Yang, T.F., Lee, L.C., Liu, T.K., Chen, C.H., Kumar, A., Lai, T.H., and Wen, K.L. (2017) Preseismic anomalies in soil-gas radon associated with 2016 M6.6 Meinong earthquake, Southern Taiwan. *Terrestrial, Atmospheric and Oceanic Sciences*, 28(5), 787-798. (SCI)
- 24. <u>Fu, C.C.</u>\*, Yang, T.F., Chen, C.H., Lee, L.C., Wu, Y.M., Liu, T.K., Walia, V., Kumar, A., and Lai, T.H. (2017) Spatial and temporal anomalies of soil gas in northern Taiwan and its tectonic and seismic implications. *Journal of Asian Earth Sciences*, 149, 64-77. (SCI)
- 25. Yuce, G., <u>Fu, C.C.</u>\*, D'Alessandro, W., Gulbay, A.H., Lai, C.W., Bellomo, S., Yang, T.F., Italiano, F., and Walia, V. (2017) Geochemical characteristics of soil radon and carbon dioxide within the Dead Sea Fault and Karasu Fault in the Amik Basin (Hatay), Turkey. *Chemical Geology*, 469, 129-146. dx.doi.org/10.1016/j.chemgeo.2017.01.003. (SCI)
- 26. <u>Fu, C.C.</u>\*, Yang, T.F., Tsai, M.C., Lee, L.C., Liu, T.K., Walia, V., Chen, C.H., Chang, W.Y., Kumar, A., and Lai, T.H. (2017) Exploring the relationship between soil degassing and seismic activity by continuous radon monitoring in the Longitudinal Valley of eastern Taiwan. *Chemical Geology*, 469, 163-175. dx.doi.org/10.1016/j.chemgeo.2016.12.042. (SCI)
- 27. Kumar, A., Walia, V.\*, Yang, T.F., <u>Fu, C.C.</u>, Singh, S., Bajwa, B.S., and Arora V. (2016) Soil 222Rn concentration, CO2 and CH4 flux measurements around the Jwalamukhi area of north-west Himalayas, India, *Radiation Protection Dosimetry*, 1-5. (SCI)
- 28. Kumar, A., Walia, V.\*, Arora, B.R., Yang, T.F., Lin, S.J., <u>Fu, C.C.</u>, Chen, C.-H., and Wen, K.L. (2015) Identifications and removal of diurnal and semidiurnal variations in radon time series data of Hsinhua monitoring station in SW Taiwan using singular spectrum analysis. *Natural Hazards*, 79,317-330. (SCI)
- 29. <u>Fu, C.C.</u>, Wang, P.K., Lee, L.C.\*, Lin, C.H., Chang, W.Y., Giuliani G., and Ouzounov, D. (2015) Temporal variation of gamma rays as a possible precursor of earthquake in the Longitudinal Valley of eastern Taiwan. *Journal of Asian Earth Sciences*, 114(2), 362-372. (SCI)
- 30. Yuce, G., Italiano, F.\*, D'Alessandro W., Yalcin, T.H., Yasin, D.U., Gulbay, A.H., Ozyurt, N.N., Rojay, B., Karabacak, V., Bellomo, S., Brusca, L., Yang, T.F., <u>Fu, C.C.</u>, Lai, C.W., Ozacar, A., and Walia, V. (2014) Origin and interactions of fluids circulating over the Amik Basin (Hatay-Turkey) and relationships with the hydrologic, geologic and tectonic settings, *Chemical Geology*, 388, 23-39. (SCI)
- Walia, V.\*, Yang, T.F., Lin, S.-J., Kumar, A., <u>Fu, C.C.</u>, Chiu, J.-M., Chang, H.-H., Wen, K.-L., and Chen, C-H. (2013) Temporal variation of soil gas compositions for earthquake surveillance in Taiwan. *Radiation Measurements*, 50, 154-159. (SCI)

- 32. Yang, T.F.\*, Wen, H.Y., <u>Fu, C.C.</u>, Lee, H.F., Lan, T.F., Chen, A.T., Hong, W.L., Lin, S.J., and Walia, V. (2012) Soil radon flux and concentrations in hydrothermal area of the Tatun Volcano Group, Northern Taiwan. *Geochemical Journal*, 45, 483-490. (SCI)
- 33. Zhang, M.L., Guo, Z.F. \*, Cheng, Z.H., Zhang, L.H., Guo, W.F., Yang, T.F., <u>Fu, C.C.</u>, Wen, H.Y., (2011) Greenhouse gases flux estimation of hot springs in Changbaishan volcanic field, NE China. Acta Petrologica Sinica, 27(10), 2898-2904. (SCI)
- Walia, V.\*, Lin, S.J., <u>Fu, C.C.</u>, Yang, T.F., Wen, K.L., and Chen, C-H. (2010) Soil-gas monitoring: A tool for fault delineation studies along Hsinhua Fault (Tainan), Southern Taiwan. *Applied Geochemistry*, 25(4), 602-607. (SCI)
- 35. Hong, W.L., Yang, T.F.\*, Walia, V., Lin, S.J., <u>Fu, C.C.</u>, Chen, Y.G., Sano, Y., Chen, C-H., and Wen, K.L. (2010) Nitrogen as the carrier gas for helium emission along an active fault in NW Taiwan. *Applied Geochemistry*, 25(4), 593-601. (SCI)
- 36. Walia, V.\*, Yang, T.F., Hong, W.L., Lin, S.J., <u>Fu, C.C.</u>, Wen, K.L., and Chen, C-H. (2009) Geochemical variation of soil-gas composition for fault trace and earthquake precursory studies along the Hsincheng Fault in NW Taiwan. *Applied Radiation and Isotopes*, 67, 1855-1863. (SCI)
- 37. Walia, V.\*, Lin, S.J., Hong, W.L., <u>Fu, C.C.</u>, Yang, T.F., Wen, K.L., and Chen, C-H. (2009) Continuous temporal soil-gas composition variations for earthquake precursory studies along Hsincheng and Hsinhua faults in Taiwan. *Radiation Measurements*. 44, 934-939. (SCI)
- Fu, C.C., Yang, T.F.\*, Walia, V., Liu, T.K., Lin, S.J., Chen, C-H., and Hou, C.S. (2009) Variations of soil gases around the active Chihshang Fault in a plate suture zone, eastern Taiwan. *Radiation Measurements*. 44, 940-944. (SCI)
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