

CURRICULUM VITAE

Kuo-Fang (Denner) Huang

Isotope Geochemist

Associate Research Fellow w/Tenure

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Education

National Cheng Kung University, Taiwan

Earth Sciences

2007 Ph. D

National Cheng Kung University, Taiwan

Earth Sciences

2000 B. S.

Professional Experience

2021 onwards	Associate Research Fellow w/Tenure, Institute of Earth Sciences, Academia Sinica, Taiwan
2014 onwards	Adjunct Scientist, Woods Hole Oceanographic Institution, USA
2013. Nov. – 2021	Assistant Research Fellow, Institute of Earth Sciences, Academia Sinica, Taiwan
2011 - 2013	Postdoctoral Investigator, Woods Hole Oceanographic Institution, USA
2010 - 2011	Postdoctoral Fellow, Woods Hole Oceanographic Institution, USA
2008 - 2010	Research Fellow, Earth Dynamic System Research Center, NCKU, Taiwan
2007 - 2008	Military Service, Taiwan
2006 - 2007	Visiting Doctoral Student, IMCS, Rutgers University, USA

Research Interests

Paleoceanography & Paleoclimatology

Marine trace element and isotope geochemistry

New analytical techniques for isotopic analyses using MC-ICP-MS and TIMS

Biogeochemical cycles of trace elements and their isotopes in the hydrosphere

Pore water geochemistry

Hydrothermal fluid chemistry

Honors & Awards

2015	NTU-Academia Sinica Innovative Joint Program (2015-2016)
2015	MOST Excellent Junior Research Investigator Award (2015-2018, MOST)
2010	NSC Postdoctoral Research Abroad Program Fellowship (WHOI, USA)
2005	NSC Student Study Abroad Scholarship (Rutgers Univ., USA)
2004	Professor P.-J. Lee Memorial Scholarship (NCKU)

Publications (*corresponding author; †student advisees)

1. P.-C. Wu[†] and **K.-F. Huang***, 2021. Tracing local sources and long-range transport of PM₁₀ in central Taiwan by using chemical characteristics and Pb isotope ratios, *Scientific Reports*, 11, 7593, doi:10.1038/S41598-021-87051-Y.
2. S.-C. Yang*, R. L. Kelly, X. Bian, T. M. Conway, **K.-F. Huang**, T.-Y. Ho, J. A. Neibauer, R. G. Keil, J. W. Moffet, and S. G. John, 2021. Lack of redox cycling for nickel in the water column of the eastern Tropical North Pacific Oxygen deficient zone: Insight from dissolve and particulate nickel isotopes. *Geochim. Cosmochim. Acta*, 309, 235-250.
3. N. T. Tran*, M. Labonne, M.-T. Chung, C.-H. Wang, **K.-F. Huang**, J.-D. Durand, C. Gridpan, B. Chan, H. D. Hoang, and J. Panfili, 2021. Natal origin and migration pathways of Mekong catfish (*Pangasius Krempfi*) using strontium isotopes and trace element concentrations in environmental water and otoliths. *PLoS ONE* 16 (6): e0252769.
4. K. Nayak, A. T.-S. Lin*, **K.-F. Huang**, Z. Liu, N. Babonneau, G. Ratzov, R. K. Pillutla, P. Das and S.-K. Hsu, 2021. Clay-mineral distribution in recent deep-sea sediments around Taiwan: Implications for sediment dispersal processes. *Tectonophysics* 814, 228974.
5. H.-C. Chao, J.-L. Pi*, C.-F. You, Y.-T. Shieh, H.-Y. Lu, **K.-F. Huang**, H.-C. Liu and C.-H. Chuang, 2021. Hydrogeology constrained by multi-isotopes and volatiles geochemistry of hot springs in Tatun Volcanic Group, Taiwan. *J. Hydrol.* 600, 126515.

6. N. J. Hawco*, S.-C. Yang, R. K. Foreman, C. P. Funkey, M. Dugenne, A. E. White, S. T. Wilson, R. L. Kelly, X. Bian, **K.-F. Huang**, D. M. Karl & S. G. John, 2020. "Metal isotope signatures from lava-seawater interaction during the 2018 eruption of Kīlauea". *Geochim. Cosmochim. Acta*, 282, 340-356.
7. S.-C. Yang*, N. J. Hawco, P. P. Gonzalez, X. Bian, **K.-F. Huang**, R. Zhang & S. G. John, 2020. "A new purification method for Ni and Cu stable isotopes in seawater provides evidence for widespread Ni isotope fractionation by phytoplankton in the North Pacific", *Chem. Geol.*, 57, 119662.
8. F. Pöppelmeier*, M. Gutjahr, P. Blaser, D. W. Oppo, S. L. Jaccard, M. Regelous, **K.-F. Huang**, F. Sufke & J. Lippold, accepted, "Water mass gradients of the mid-depth Southwest Atlantic during the past 25,000 years", 2020. *Earth Planet. Sci. Lett.*, DOI: 10.1016/j.epsl.2019.115963.
9. B. Lin, Z. Liu*, T. I. Eglinton*, S. Kandasamy, T. M. Blattmann, N. Haghypour, **K.-F. Huang** & C.-F. You, 2020. "Island-wide variation in provenance of riverine sedimentary organic carbon: A case study from Taiwan", *Earth Planet. Sci. Lett.*, 539, 116238.
10. S. Takano*, W.-H. Liao, H.-A. Tian, **K.-F. Huang**, T.-Y. Ho & Y. Sohrin, 2020. "Sources of particulate Ni and Cu in the water column of the northern South China Sea: Evidence from elemental and isotope ratios in aerosols and sinking particles", *Marine Chemistry* 219, doi.org/10.1016/j.marchem.2020.103751
11. M.-T. Chung, **K.-F. Huang**, C.-F. You, C.-C. Chiao & C.-H. Wang*, 2020. "Elemental ratios in cuttlebone indicate growth rates in the cuttlefish *Sepia pharaonis*", *Frontiers in Marine Science*, 6:796, doi.org/10.3389/fmars.2019.00796.
12. W.-H. Liao, S. Takano, S.-C. Yang, **K.-F. Huang**, Y. Sohrin & T.-Y. Ho*, 2020, "Zn Isotope Composition in the Water Column of the Northwestern Pacific Ocean: The Importance of External Sources", *Global Biogeochemical Cycles*, 34, e2019GB006379.
13. N. Zhao*, D. W. Oppo, **K.-F. Huang**, J. N. W. Howe, J. Blusztajn & L. D. Keigwin, 2019, "Glacial–interglacial Nd isotope variability of North Atlantic Deep Water modulated by North American ice sheet", *Nature Communications.*, doi.org/10.1038/s41467-019-13707-z.
14. N. E. Umling*, D. W. Oppo, P. Chen, J. Yu, Z. Liu, M. Yan, G. Gebbie, D. C. Lund, K. R. Pietro, Z. D. Jin, **K.-F. Huang**, K. B. Costa & F. A. L. Toledo, 2019, "Atlantic circulation and ice sheet influences on upper South Atlantic temperatures during the last deglaciation", *Paleoceanography and Paleoclimatology*, doi: 10.1029/2019PA003558.
15. S.-C. Yang*, L. Welter, A. Kolatkar, J. Nieva, K. R. Waitman, **K.-F. Huang**, W.-H. Liao, S. Takano, W. M. Berelson, A. J. West, P. Kuhn & S. G. John, Jan. 2019, "A new anion exchange purification method for Cu stable isotopes in blood samples", *Analytical and Bioanalytical Chemistry*, 411(3) 765-776.
16. F. Wu*, J. D. Owens, T. Y. Huang, A. Sarafian, **K.-F. Huang**, I. S. Sen, T. J. Horner, J. Blusztajn, P. Morton and S. G. Nielsen, 2019. Vanadium isotope composition of seawater. *Geochim. Cosmochim. Acta*, 244, 403-415.
17. D. W. Oppo*, G. Gebbie, **K.-F. Huang**, W. B. Curry, T. M. Marchitto and K. R. Pietro. Data constraints on glacial Atlantic water mass geometry and properties. *Paleoceanography and Paleoclimatology*, 33, 1013-1034.
18. C. T. Hayes* et al., 2018. Replacement times of a spectrum of elements in the North Atlantic based on thorium supply. *Global Biogeochemical Cycles*, 32, 1294-1311.
19. R. Schlitzer* et al., 2018. The GEOTRACES Intermediate Data Product 2017. *Chem. Geol.* 493, 210-223.
20. Y.-H. Liu, **K.-F. Huang*** and D.-C. Lee, 2018. Precise and accurate boron and lithium isotope determinations for small sample-size geological materials by MC-ICP-MS. *J. Anal. At. Spectrom.*, 33, 846-855.
21. J. N. W. Howe†, **K.-F. Huang***, D. W. Oppo, C. M. Chiessi, S. Mulitza, J. Blusztajn and A. M. Piotrowski, 2018. Similar mid-depth Atlantic water mass provenance during the Last Glacial Maximum and Heinrich Stadial 1. *Earth Planet. Sci. Lett.*, 490, 51-61.
22. H.-Y. Chen, H.-J. Yang*, Y.-H. Liu, **K.-F. Huang** and E. Takazawa, 2018. Tectonic affinities of the accreted basalts in southern Taiwan. *J. Asian Earth Sci.*, 158, 253-265.
23. N. R. Mollica*, W. Guo*, A. L. Cohen, **K.-F. Huang**, G. L. Foster, H. K. Donald and A. R. Solow, 2018. Ocean acidification affects coral growth by reducing skeletal density. *Proc. Natl. Acad. Sci. USA*, doi/10.1073/pnas.1712806115.
24. H.-C. Liu, C.-F. You*, H. Zhou, **K.-F. Huang**, C.-H. Chung, W.-J. Huang and J. Tang, 2017. Effect of calcite precipitation on stable strontium isotopic compositions: Insights from riverine and pool waters in a karst cave. *Chem. Geol.*, 456, 85-97.

25. J. N. W. Howe*, A. M. Piotrowski, D. W. Oppo, **K.-F. Huang**, S. Mulitza, C. M. Chiessi and J. Blusztajn, 2016, "Antarctic Intermediate Water circulation in the South Atlantic over the past 25,000 years: South Atlantic neodymium records", *Paleoceanography*, 31, 1302-1314.
26. R. F. Anderson*, H. Cheng, R. L. Edwards, M. Q. Fleisher, C. T. Hayes, **K.-F. Huang**, D. Kadko, P. J. Lam, W. M. Landing, Y. Lao, Y. Lu, C. I. Measures, S. B. Moran, P. L. Morton, D. C. Ohnemus, L. F. Robinson and R. U. Shelley, 2016, "How well can we quantify dust deposition to the ocean?", *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 374(2081), 20150285
27. P. Lerner*, O. Marchal, P. J. Lam, R. F. Anderson, K. Buesseler, M. A. Charette, R. L. Edwards, C. T. Hayes, **K.-F. Huang**, Y. Lu, L. F. Robinson and A. Solow, 2016, "Testing models of thorium and partThemicle cycling in the ocean using data from station GT11-22 of the U.S. GEOTRACES North Atlantic Section", *Deep-Sea Research Part I- Oceanographic research papers*, 113, 57-79.
28. E. Mawji* et al., 2015, "The GEOTRACES Intermediate Data Product 2014", *Marine Chemistry*, 177, 1-8.
29. C. T. Hayes*, R. F. Anderson, M. Q. Fleisher, **K.-F. Huang**, L. F. Robinson, Y. Lu, H. Cheng, R. L. Edwards and S. B. Moran, 2015a, "230Th and 231Pa on GEOTRACES GA03, the U.S. GEOTRACES North Atlantic transect, and implications for modern and paleoceanographic chemical fluxes", *Deep-Sea Research Part II- Topical Studies in Oceanography*, 116, 29-41.
30. C. T. Hayes*, R. F. Anderson, Martin Q. Fleisher, Sebastian M. Vivancos, Phoebe J. Lam, Daniel C. Ohnemus, **K.-F. Huang**, Laura F. Robinson, Yanbin Lu, Hai Cheng, R. Lawrence Edwards and S. Bradley Moran, 2015b, "Intensity of Th and Pa scavenging partitioned by particle chemistry in the North Atlantic Ocean", *Marine Chemistry*, 170, 49-60.
31. **K.-F. Huang***, D. W. Oppo and W. B. Curry, 2014. Decreased Influence of Antarctic Intermediate Water in the Tropical Atlantic During North Atlantic Cold Events, *Earth Planet. Sci. Lett.*, 389, 200-208.
32. H.-C. Liu, C.-F. You*, W.-J. Cai, C.-H. Chung, **K.-F. Huang**, B.-S. Chen and Y. Li, 2014. Precise Determination of Seawater Calcium using Isotope Dilution Inductively Coupled Plasma Mass Spectrometry, *Analyst*, 139, 734-741.
33. P.-H. Tsai, C.-F. You*, **K.-F. Huang**, C.-H. Chung and Y. Sun, 2014. Lithium distribution and isotopic fractionation during chemical weathering and soil formation in a loess profile. *J. Asian Earth Sci.*, 87, 1-10.
34. M. Hori*, T. Ishikawa, K. Nagaishi, C.-F. You, **K.-F. Huang**, C.-C. Shen, and A. Kano, 2014. Rare earth elements in a stalagmite from southwestern Japan: A potential proxy for chemical weathering. *Geochem. J.* 48, 73-84.
35. **K.-F. Huang***, C.-F. You, C.-H. Chung, Y.-H. Lin and Z. Liu, 2014. Tracing the Nd Isotope Evolution of North Pacific Intermediate and Deep Waters through the Last Deglaciation from the South China Sea Sediments, *J. Asian Earth Sci.*, 79, 564-573.

Synergistic Activities

- Participation in the US GEOTRACES Group- Pa-Th isotopes (2011 – Present)
- Seminar organizer: WHOI Paleolunch Series (2010 - 2013); AS-IES Institutional Seminar (2015-2017)
- Workshop organizer: 2015 Taiwan-US Joint Workshop: The role of oceanographic processes on the response of tropical coral reef ecosystems to ocean acidification and ocean warming

Professional Activities

Journal Review: *Earth and Planetary Science Letters, Paleoceanography and Paleoclimatology, Geochimica et Cosmochimica Acta, Chemical Geology, Journal of Analytical Atomic Spectrometry, Geostandards and Geoanalytical Research, Analytical Method, Rapid Communications in Mass Spectrometry, Atmospheric Environment, Precambrian Research, Scientific Reports, Geochemistry Geophysics Geosystems, Frontiers in Earth Science, Frontiers in Marine Science, Applied Geochemistry, Palaeogeography Palaeoclimatology Palaeoecology, Marine Geology, Continental Shelf Research, Quaternary International and Geochemical Journal.*

Proposal Review: NSC & MOST (Taiwan), NSF (USA) and ERC (Starting and Consolidator Grants, European Research Council)

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