

# Chunhui Tao

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## Profile

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Dr. Chunhui Tao is a researcher of the Second Institute of Oceanography, State Oceanic Administration of China. He has worked as an adjunct doctoral supervisor and adjunct professor at Zhejiang University, Jilin University, and China University of Geosciences (Wuhan). He has been involved in exploration and evaluation of seafloor mineral resources since 1994, and has conducted survey and research works on hydrothermal sulfides at the Southwest Indian Ocean, East Pacific Rise and South Atlantic Ocean as the chief scientist of China's seafloor sulfide survey cruises since 2007. As the chief scientist, he discovered the first active hydrothermal field (Longqi-1) along any ultra-slow spreading ridges in 2007 and several other hydrothermal fields in the following years, revealing the prospect of sulfide deposits along the ultra-slow spreading ridges. He also found many seafloor hydrothermal fields along the southern Mid-Atlantic Ridge and the East Pacific Rise (2°N-7°S). Those findings imply that the ridge segments with excess heat from enhanced magmatism and suitable crustal permeability along slow and ultraslow ridges might be the most promising areas for searching for hydrothermal activities. Now, he is responsible for the exploration and evaluation research of seafloor sulfide in the Southwest Indian Ridge. He has been selected as Outstanding Expert of Zhejiang Province, member of 'Ten Thousand Talent Program', the national outstanding scientific and technical workers, etc.. He has received the Zeng Chengkui Ocean Youth Science and Technology Award. He is also a member of InterRidge Circum-Antarctic Ridges Working Group.

## Education

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1986-1990 B.S. in Applied Geophysics, China University of Geosciences, Wuhan, China  
1990-1993 MA.Sc. in Applied Geophysics, Changchun Geological College, Changchun, China  
2001-2005 Ph. D. in Structural Geology, Zhejiang University, Hangzhou, China  
2003 Visiting scholar at the University of Hawaii, Hawaii, USA

## Research Interests

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Deep-sea Hydrothermal Activity  
Marine Geophysics

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## Selected Recent Publications

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**Tao C H**, Chen S\*, Baker E T, Li H M, Liang, J, Liao S L, Chen Y S, Deng X M, Zhang G Y, Gu C H, Wu J L. Hydrothermal plume mapping as a prospecting tool for seafloor sulfide deposits: a case study at the Zouyu-1 and Zouyu-2 hydrothermal fields in the southern Mid-Atlantic Ridge [J]. *Marine Geophysical Research*, 2017, 38 (1): 3-16.

**Tao, C H**, Wu T\*, Liu C, Li H M, Zhang J H. Fault inference and boundary recognition based on near-bottom

- magnetic data in the Longqi hydrothermal field[J]. *Marine Geophysical Research*, 2017. 38(1): 17-25.
- Yang W F, **Tao C H\***, Li H M, Liang J, Liao S L, Long J P, Ma Z, Wang L. 230Th/238U dating of hydrothermal sulfides from Duanqiao hydrothermal field, Southwest Indian Ridge [J]. *Marine Geophysical Research*, 2017, 38(1): 1-13.
- Tao C H\***, Jin X B, Bian A F, Li H X, Deng X M, Zhou J P, Gu C H, Wu T, Roy W. Estimation of Manganese Nodule Coverage Using Multi-Beam Amplitude Data [J]. *Marine Georesources & Geotechnology*, 2015, 33(4): 283-288.
- Wu T, **Tao C H\***, Liu C, Li H M, Wu Z C, Wang S M, Chen Q Z. Geomagnetic Models and Edge Recognition of Hydrothermal Sulfide Deposits at Mid-ocean Ridges[J]. *Marine Georesources & Geotechnology*, 2015, 34(7):630-637.
- Tao C H**, Li H M\*, Jin X B, Zhou J P, Wu T, He Y H, Deng X M, Gu C H, Zhang G Y, Liu W O. Seafloor hydrothermal activity and polymetallic sulfide exploration on the southwest Indian ridge[J]. *Chinese science bulletin*, 2014, 59(19): 2266-2276.
- Chen S, **Tao C H\***, Li H M, Chen Y S, Zhou J P, Wu T. A data processing method for MAPR hydrothermal plume turbidity data and its application in the Precious Stone Mountain hydrothermal field [J]. *Acta Oceanologica Sinica*, 2014, 33 (8):34-43.
- Tao C H**, Xiong W\*, Xi Z Z, Deng X M, Xu Y X. TEM investigations of South Atlantic Ridge 13.2°S hydrothermal area [J]. *Acta Oceanologica Sinica*, 2013, 32(12): 68-74.
- Tao C H**, Wu G H\*, Deng X M, Qiu Z Y, Han C, H, Long Y M. New discovery of seafloor hydrothermal activity on the Indian Ocean Carlsberg Ridge and Southern North Atlantic Ridge-progress during the 26th Chinese COMRA cruise [J]. *Acta Oceanologica Sinica*, 2013, 32(8): 85-88.
- Tao C H**, Wu T\*, Jin X B, Dou B J, Li H M, Zhou J P. Petrophysical characteristics of rocks and sulfides from the SWIR hydrothermal field[J]. *Acta Oceanologica Sinica*, 2013, 32(12): 118-125.
- Tao C H\***, Lin J\*, Guo S Q, John Chen Y S, Wu G H, Han X Q, German C R, Yoerger D R, Zhou N, Li H M, Su X, Zhu J. First active hydrothermal vents on an ultraslow-spreading center: Southwest Indian Ridge [J]. *Geology*, 2012, 40(1): 47-50.
- Tao C H**, Li S J\*, Song C B, Cheng Y S, Yang C G, He Y H, Yang Z, Deng X M, Gao J Y, Lei Q. Niao Chao Hill-Study of supporting techniques for China's first international undersea feature name[J]. *Science China (Earth Sciences)*, 2012, 55(10): 1588-1591.
- Tao C H**, Li H M\*, Yang Y M, Ni J Y, Cui R Y, Chen Y S, Li J B, He Y H, Huang W, Lei J J, Wang Y J. Two hydrothermal fields found on the Southern Mid-Atlantic Ridge [J]. *Science China (Earth Science)*, 2011, 54(9):1302-1303.
- Li H M, **Tao C H\***, Huang W, Han X Q, Wu G H, Su X, Zhou N, Lin J, He Y H, Zhou J P. Mineralogical and geochemical features of sulfide chimneys from the 49 39' E hydrothermal field on the Southwest Indian Ridge and their geological inferences[J]. *Chinese Science Bulletin*, 2011, 56(26): 2828-2838.