

## CV-APPENDIX

### HUIMING BAO PUBLICATIONS BY TOPICS (\* Students or postdocs)

1. *INVITED REVIEW PAPERS*
2. *EXPERIMENTAL AND THEORETICAL STUDIES ON STABLE ISOTOPE EFFECTS*
3. *EARLY EARTH, ARCHEAN, AND THE GREAT OXIDATION EVENT*
4. *“SNOWBALL” EARTH*
5. *ATMOSPHERIC CHEMISTRY AND DEPOSITIONS*
6. *HYPERARID ENVIRONMENTS AND ANTARCTICA*
7. *VOLCANISM AND SO<sub>2</sub> OXIDATION*
8. *ENVIRONMENTAL SCIENCES*
9. *PALEOBIOLOGY & PLAEOCLIMATE STUDIES*
10. *METERORITES & PLANETARY SCIENCES*
11. *MATERIAL SCIENCES*
12. *ANALYTICAL CHEMISTRY*

## 1. INVITED REVIEW PAPERS

- Bao, Huiming**, Cao, Xiaobin\*, and Hayles, A. J.\*, 2016, Triple Oxygen Isotopes: Principle and Applications, *Annual Review of Earth and Planetary Sciences*, 44:463–92. DOI: 10.1146/annurev-earth-060115-012340.
- Bao, Huiming**, 2015, Sulfate: A time capsule for Earth's O<sub>2</sub>, O<sub>3</sub>, and H<sub>2</sub>O, *Chemical Geology*, 395, 108-118 (*Invited Review*).
- Thiemens, M. H., Savarino, J., Farquhar, J., **Bao, Huiming**, 2001, Mass-independent isotopic compositions in terrestrial and extraterrestrial solids and their Applications. *Accounts of Chemical Research*, 34(8), 645-652.

## 2. EXPERIMENTAL AND THEORETICAL STUDIES ON STABLE ISOTOPE EFFECTS

- He, YY\*, Cao XB, Wang JW, **Bao HM.**, 2018, Identifying apparent local stable isotope equilibrium in a complex non-equilibrium system. *Rapid Commun. Mass Spectrom.* 32:306-310. <https://doi.org/10.1002/rcm.8040>
- Cao, Xiaobin\*, and **Bao, Huiming**, 2017, Redefining the utility of the three-isotope method: *Geochimica et Cosmochimica Acta*, v. 212, p. 16-32, doi: 10.1016/j.gca.2017.05.028.
- Hayles, J.A.\*, Cao, Xiaobin\*, **Bao, Huiming**, 2017, The statistical mechanical basis of the triple isotope fractionation relationship, *Geochemical Perspective Letter*. 3:1-11, doi: 10.7185/geochemlet.1701.
- Zhu, Dan, **Bao, Huiming**, Liu, Yun, 2015, Non-traditional stable isotope behaviors in immiscible silica-melts in a mafic magma chamber, *Scientific Reports*. 5:17561 | DOI: 10.1038/srep17561.
- Bao, Huiming**, Cao, Xiaobin\*, and Hayles, A. Justin\*, The confines of triple oxygen isotope exponents in elemental and complex mass-dependent processes. *Geochimica et Cosmochimica Acta*. 170 (2015) 39–50. DOI: 10.1016/j.gca.2015.07.038.
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- Kohl\*, I. E. and **Bao, Huiming**, 2011, Triple-Oxygen-Isotope Determination of Molecular Oxygen Incorporation in Sulfate Produced during Abiotic Pyrite Oxidation (pH = 2-11), *Geochimica et Cosmochimica Acta*, 75, 1785-1798.
- Sun, Tao\* and **Bao, Huiming**, 2011, Thermal-Gradient Induced Non-Mass-Dependent Isotope Fractionation. *Rapid Communications in Mass Spectrometry*, 25, 765-773.
- Sun, Tao\* and **Bao, Huiming**, 2011, Non-mass-dependent <sup>17</sup>O anomalies generated by a superimposed thermal gradient on a rarefied O<sub>2</sub> gas in a closed system. *Rapid Communications in Mass Spectrometry*, 25, 20-24; DOI: 10.1002/rcm.4825.
- Farquhar, J., Canfield, D. E., Masterson, A., **Bao, H.**, and Johnston, D., 2008, Sulfur and oxygen isotope study of sulfate reduction in experiments with natural populations from Fællestrand, Denmark, *Geochimica et Cosmochimica Acta*, 72, 2805-2821.
- Bao, Huiming**, Koch, P. L., and Thiemens, M. H., 2000, Oxygen isotope composition of ferric oxides from recent soil, hydrologic, and marine environments. *Geochim. Cosmochim. Acta* 64 (11), 2221-2231.

- Bao, Huiming** and Koch, P. L., 1999, Oxygen isotope fractionation in ferric oxide-water systems: Low temperature synthesis. *Geochim. Cosmochim. Acta* 63, 599-613.
- Bao, Huiming**, PhD Dissertation, Princeton University, 1998: Title: **Ferric oxides and oxyhydroxides: Oxygen isotope systematics and paleoclimatic reconstruction.**

### 3. EARLY EARTH, ARCHEAN, AND THE GREAT OXIDATION EVENT

- Benjamin L. Byerly, Keena Kareem, **Huiming Bao**, Gary R. Byerly, 2017, Early Earth mantle heterogeneity revealed by light oxygen isotopes of Archaean komatiites. *Nature Geosciences*, v. 10, 871-876.
- Bao, Huiming**, Sun, T.\*, Kohl, I.\*, and Peng, Y.-P.\*, 2008, Comments on “Early Archaean microorganisms preferred elemental sulfur, not sulfate”, *Science*, v. 319 (5868), p. 1336.
- Bao, Huiming**, Rumble III, D., Lowe, D. R., 2007, The five stable isotope compositions of the Fig Tree barites: Implications on sulfur cycle in an early Archean ocean. *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2007.05.032.
- Schiffbauer, J. D., Yin, L.-M., Bondnar, R. J. Kaufman, A. J., Meng, F.W., Hu, J., Shen, B., Yuan, X.-L., **Bao, HM.**, and Xiao, S. H., 2007, Ultrastructural and geochemical characterization of Archean–Paleoproterozoic graphite particles: Implications for recognizing traces of life in highly metamorphosed rocks. *Astrobiology*, 7(4), 684-704, DOI: 10.1089/ast.2006.0098.
- Farquhar, J., **Bao, Huiming** & Thiemens, M. H. et al., 2001, Questions regarding Precambrian sulfur isotope fractionation – Response. *Science*, 292 (5524), U6-U7.
- Farquhar, J., **Bao, Huiming** & Thiemens, M. H., 2000, Atmospheric influence of Earth's earliest sulfur cycle. *Science* 289, 756-758.

### 4. “SNOWBALL” EARTH

- Ian J. Fairchild, Edward J. Fleming, **Huiming Bao**, Douglas I. Benn and 9 others, 2016, Continental carbonate facies of a Neoproterozoic panglaciatioin, north-east Svalbard. *Sedimentology*. V. 63, p.1-56. DOI: 10.1111/sed.12252.
- Douglas I. Benn, Yannick Donnadieu, **Huiming Bao**, Christian Dumas, Edward J. Fleming, Michael J. Hambrey, Guillaume Le Hir, Emily A. McMillan, Michael S. Petronis, Gilles Ramstein, Carl T.E. Stevenson, Peter M. Wynn, Ian J. Fairchild, 2015, Orbitally Forced Climatic Fluctuations in Snowball Earth. *Nature Geosciences*, v. 8(9), p. 704-+; PUBLISHED ONLINE: 24 AUGUST 2015 | DOI: 10.1038/NNGEO2502.
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- Bryan A. Killingsworth\*, Justin A. Hayles\*, Chuanming Zhou, and **Huiming Bao**, 2013, Sedimentary Constraints on the Duration of the Marinoan Oxygen-17 Depletion (MOSD) Event. *PNAS*, Feb. 6, 2013; [www.pnas.org/cgi/doi/10.1073/pnas.1213154110](http://www.pnas.org/cgi/doi/10.1073/pnas.1213154110).
- Peng, Yongbo\*, **Bao, Huiming**, Zhou, Chuanming, Yuan, Xunlai, and Luo, Taiyi, 2013, Oxygen isotope composition of meltwater from a Neoproterozoic glaciatioin in South China. *Geology*, 41 (3), 367-370.

- Bao, Huiming**, Chen, Zhong-Qiang, Zhou, Chuanming, 2012, An  $^{17}\text{O}$  record of late Neoproterozoic glaciation in the Kimberley region, Western Australia. *Precambrian Research*, v. 216-219, p.152-161. 10.1016/j.precamres.2012.06.019.
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## 5. ATMOSPHERIC CHEMISTRY AND DEPOSITIONS

- Li, P., Yan, R., Yu, S., Wang, S., Liu, W., **Bao, Huiming**, 2015, Reinstate regional transport of  $\text{PM}_{2.5}$  as a major cause of severe haze in Beijing. *Proceedings of the National Academy of Sciences*. 10.1073/pnas.1502596112. May 26, 2015, vol. 112(21), E2739–E2740.
- Xiaoqian Li\*, **Huiming Bao**, Yiqun Gan, Aiguo Zhou, Yunde Liu, 2013, Multiple oxygen and sulfur isotope compositions of secondary atmospheric sulfate in a mega-city in central China. *Atmospheric Environment*, 81(12), 591-599.
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## 6. HYPERARID ENVIRONMENTS AND ANTARCTICA

Sun, Tao\*, **Bao, Huiming**, Reich, Martin, Hemming Sidney, More than Ten Million Years of Hyper-aridity recorded in the Atacama Gravels. *Geochimica et Cosmochimica Acta*, 227:123-132.

Sun, Tao\*, Richard A. Socki, David L. Bish, Ralph P. Harvey, **Huiming Bao**, Paul Niles, Ricardo Cavicchioli, Eric Tonui, Lost cold deserts in the Antarctica interior inferred from unusual sulfate deposits and multiple isotope signatures. *Nature Communications*, June 29 (2015), DOI: 10.1038/ncomms8579.

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**Bao, Huiming et al.** 2000, Anomalous <sup>17</sup>O compositions in massive sulphate deposits on the Earth. *Nature* 406, 176-178.

## 7. VOLCANIC SO<sub>2</sub> OXIDATION

- Bao, Huiming**, Yu, Shaocai, and Tong, Daniel Q., 2010, Massive volcanic SO<sub>2</sub> oxidation and sulphate aerosol deposition in Cenozoic North America. *Nature*, doi:10.1038/nature09100
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## 8. ENVIRONMENTAL SCIENCES

- Niu, Lili; Xu, Chao; Zhu, Siyu; **Bao, Huiming** and 6 others, 2016, Enantiomer signature and carbon isotope evidence for the migration and transformation of DDTs in arable soils across China, *Scientific Reports*, 6, 38475; doi: 10.1038/srep38475.
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## 9. PALEOBIOLOGY & PLAEOCLIMATE STUDIES

- Feng, D., Peng, YB\*, **Bao, HM**, Peckmann, J., Roberts, H.H., and Chen, D.F. 2016, A carbonate-based proxy for sulfate-driven anaerobic oxidation of methane, *Geology*. Data Repository item 2016336 | doi:10.1130/G38233.1
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- Peng\*, Yongbo, **Bao, Huiming**, and 9 others, 2014, Widespread contamination of carbonate-associated sulfate by present-day secondary atmospheric sulfate: Evidence from triple oxygen isotopes, *Geology*, doi:10.1130/G35852.1.
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#### 10. METEORITES & PLANETARY SCIENCES

- Li, S.J., Wang, S.J., **Bao, HM.**, Miao, B.K., Liu, S., Coulson, I.M., Li, X.Y., Li, Y., 2011. The Antarctic achondrite, Grove Mountains 021663: An olivine-rich winonaite. *Meteoritics & Planetary Science* 46, 1329-1344.
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#### 11. MATERIAL SCIENCES

- Hayles, A. Justin\*, **Bao, Huiming**, The reduction and oxidation of ceria: A natural abundance triple oxygen isotope perspective. *Geochimica et Cosmochimica Acta*. 159 (2015), p. 220-230; DOI: 10.1016/j.gca.2015.03.030.

#### 12. ANALYTICAL CHEMISTRY

- Peng, Yongbo\*, **Bao, Huiming**, and 9 others, 2014, Widespread contamination of carbonate-associated sulfate by present-day secondary atmospheric sulfate: Evidence from triple oxygen isotopes, *Geology*, doi:10.1130/G35852.1.
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