

# Nicole Xike Nie

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|----------------------------------|---|--------------|
| <b>EDUCATION</b>                 | <b>University of Chicago</b> , IL, USA<br>Ph.D. candidate in Geochemistry and Cosmochemistry  | 2013-present |
|                                  | <b>Chinese Academy of Sciences (CAS)</b> , Beijing, China<br>M.S. in Geochemistry   | 2010-2013    |
|                                  | <b>China University of Geosciences (CUG)</b> , Beijing, China<br>B.S. in Geology  | 2006-2010    |
| <b>RESEARCH INTERESTS</b>        | Isotope geo/cosmochemistry, using isotopic systems to trace early solar system processes, surface conditions, weathering processes  |              |
| <b>AWARDS</b>                    | NASA Earth and Space Science Fellowship   | 2015-2018    |
|                                  | Goldschmidt Student Travel Grant  | 2016         |
|                                  | Department Graduate Student Fellowship, University of Chicago   | 2015         |
|                                  | Chinese Academy of Sciences Fellowship, CAS, China  | 2010-2013    |
|                                  | Outstanding Undergraduate Award, CUG, China   | 2010         |
|                                  | Laboratory Open Fund Outstanding Project Award, CUG, China  | 2009         |
|                                  | China National Scholarship, China   | 2007-2010    |
|                                  | Tsang Hin-Chi Scholarship, China  | 2007-2010    |
|                                  | Excellence in Geology Award, CUG, China   | 2007-2010    |
| <b>TEACHING ASSISTANT-SHIPS</b>  | GEOS 21100: Introduction to Petrology (Spring 2014, 2015 & 2016)<br>PHSC 13600: Natural Hazards (Winter 2014 & 2018)<br>PHSC 13400: Global Warming (Fall 2013 & 2014)   |              |
| <b>ACADEMIC SERVICE</b>          | Reviewer for <i>Geochimica et Cosmochimica Acta</i> , <i>Geostandards and Geoanalytical Research</i> , <i>Terra Nova</i>  |              |
| <b>PROFESSIONAL AFFILIATIONS</b> | American Geophysical Union, Geochemical Society   |              |
| <b>PUBLICATIONS</b>              | Nie N. X., Dauphas N., Morris R. V. and Mertzman S. A. Iron isotopic and chemical tracing of basalt alteration and hematite spherule formation in Hawaii: a prospective study for Mars (in review).<br><br>Prissel K. B., Krawczynski M. J., Nie N. X., Dauphas N., Couvy H., Hu M. Y., Ercan Alp E. and Roskosz M. (2018) Experimentally determined effects of olivine crystallization and melt titanium content on iron isotopic fractionation in planetary basalts. <i>Geochimica et Cosmochimica Acta</i> (in press). |              |

Dauphas N., Hu M. Y., Baker E. M., Hu J., Tissot F. L. H., Alp E. E., Roskosz M., Zhao J., Bi W., Liu J., Lin J. F., **Nie N. X.**, and Heard A. (2018) SciPhon: a data analysis software for Nuclear Resonant Inelastic X-ray Scattering with applications to Fe, Kr, Sn, Eu and Dy. *Journal of Synchrotron Radiation* (in press).

**Nie N. X.**, Dauphas N. and Greenwood R. C. (2017) Iron and oxygen isotope fractionation during iron UV photo-oxidation: Implications for early Earth and Mars. *Earth and Planetary Science Letters* 458, 179–191.

Zheng Y., Jia J., **Nie X.** and Kong P. (2014) Cosmogenic nuclide burial age of the Sanying Formation and its implications. *Science China Earth Sciences*, 57(6): 1141–1149.

**Nie X.** and Kong P. (2013) Geochemistry of silicates in the Dong UjimQin Qi mesosiderite and the implications for its origin. *Advances in Polar Science*, 25(4): 403–413. (in Chinese)

#### CONFERENCE ABSTRACTS

**Nie N. X.**, Dauphas N., Sio C. K., Spear F. S. (2018) Inter-mineral equilibrium iron isotopic fractionation factors from a special metamorphic rock. *Goldschmidt Conference, August 12-17, Boston, MA.*

Heard A. Dauphas N. Rouxel O., **Nie N.** (2018) Triple iron isotope variations in Archean ocean sediments. *Goldschmidt Conference, August 12-17, Boston, MA.*

Prissel K. B., Krawczynski M. J., Dauphas N., **Nie N. X.** (2018) Evaporative iron loss during one-atmosphere gas-mixing experiments. *Sixteenth International Symposium on Experimental Mineralogy, Petrology, and Geochemistry, June 17-21, Clermont-Ferrand, France.*

Heard A. W., Dauphas N., Rouxel O. J., **Nie N. X.** (2018) Insights into redox cycling on early earth from the mass fractionation law of iron isotopes in Archean sediments. *49<sup>th</sup> Lunar and Planetary Science Conference, #2470.*

Dauphas N., Meheut M., Blanchard M., Zeng H., Galli G., Canup R. N., Visscher C., **Nie N.** (2018) Can lunar formation theories be tested with K isotopes? *49<sup>th</sup> Lunar and Planetary Science Conference, #2481.*

Finlayson V., Konter J., Rubin K. H., **Nie N. X.**, Dauphas N. (2017) A subduction zone spreading ridge transition signature preserved in recent volcanic activity in the NE Lau Basin. *The Geological Society of America 113<sup>th</sup> Annual Meeting, May 23-25, Honolulu, Hawai'i.*

**Nie N. X.**, Dauphas N., Morris R. V. (2017) Clues on acid-sulfate alteration and hematite formation on Earth and Mars from iron isotope analyses of terrestrial analogues from Hawaii. *48<sup>th</sup> Lunar and Planetary Science Conference, #2802.* [Oral Presentation]

**Nie N. X.**, Dauphas N., Greenwood R. C. (2016) Iron and oxygen isotope fractionation during photo-oxidation (2016). *Goldschmidt Conference, June 26-July 1, Yokohama, Japan.* [Oral Presentation]

**Nie N. X.**, Dauphas N., Greenwood R. C. (2016) Iron and oxygen isotope fractionation during photo-oxidation. *47<sup>th</sup> Lunar and Planetary Science Conference, #1489.*

Williams K. B., Krawczynski M. J., **Nie N. X.**, Dauphas N., Couvy H., Hu M. Y., Alp E. E. (2016) The role of differentiation processes in mare basalt iron isotope signatures. *47th Lunar and Planetary Science Conference*, #2779.

**Nie N. X.**, Dauphas N. (2015) Iron isotope constraints on the photo-oxidation pathway to BIF formation. *46<sup>th</sup> Lunar and Planetary Science Conference*, #2635. [Oral Presentation]

**INVITED  
TALKS**

Photo-oxidation on early Earth and Mars: insights from Fe isotopes. (2017)  
*Institute of Geology and Geophysics, Chinese Academy of Sciences.*

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