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Research Interests

- Origin and evolution of the early solar system
- Aqueous alteration and water transport on planetary bodies
- Volatile elements in Hadean zircons
- Non-traditional isotope fractionation
- Isotopic fractionation during Moon formation
- Cosmic ray effects

Education

Ph.D. The University of Chicago, IL, USA (2007-2013)
Thesis: ^{60}Fe - ^{60}Ni Systematics in the Solar Protoplanetary Disk

B.Sc. University of Science and Technology of China, Hefei, China (2003-2007)
Thesis: A Quantitative Analysis of OH Content in Granite Minerals by FTIR

Employment

2013-2017 Postdoctoral researcher, University of California, Los Angeles.

2018-present Project Scientist, University of California, Los Angeles.

Teaching Experience

- Teaching assistant, The University of Chicago (18 quarters in total, representing ~540 hours in total)
Course: Origin and Evolution of the Solar System, Global Warming, Natural Hazard, Physical Geology.
- Lecture, SIMS Workshop at UCLA in 2017 and 2019 (2 hours, 24 students)
Course: SIMS Depth Profiling and Ion Image, Data Reduction, Short-lived Nuclides in Meteorites.

Funding

- 2018-2022, NASA-Emerging Worlds program (main collaborator)
Project title: Volatility in the Early Solar System (PI: Edward D. Young)
- 2015-2018, NASA-Emerging Worlds program (main collaborator)

Project title: Chronological constraints on aqueous processing and the evolution of asteroidal materials (PI: Kevin D. McKeegan)

Past & Current Collaborators

Nicolas Dauphas (U. of Chicago),	Kevin D. McKeegan (UCLA)
T. Mark Harrison (UCLA)	Edward D. Young (UCLA)
Elizabeth A. Bell (UCLA)	Dustin Trail (U. of Rochester)
Francois L. H. Tissot (Caltech)	Catherine A. Macris (IUPUI)
Anat Shahr (Carnegie Institution)	Christoph Burkhardt (U. Münster)
Hilke Schlichting (UCLA/MIT)	Marc Caffee (Purdue University)

Professional Service

- *Referee:* Reviews in Mineralogy and Geochemistry, Geochimica et Cosmochimica Acta, Nature Astronomy, Earth and Planetary Science Letters, American Mineralogist.
- *Judge:* GSA Planetary Geology Division Dwornik Award
- *Session convener,* 2018 Goldschmidt Conference
- *Organizer,* 2017 UCLA SIMS workshop

Professional Society Memberships

American Geophysical Union (AGU)
Meteoritical Society (MetSoc)

Public Outreach

Docent of UCLA Meteorite Gallery, 2013-present
“Exploring Your Universe” event at UCLA, 2017

Invited Talks

- Macao University of Science and Technology, “Isotopic Cosmochemistry as A Key to Decipher the History of Solar System”, April 2019
- Caltech Division Seminar, “A Short-term Rock Vapor Atmosphere as A Possible Mechanism of Isotopic Fractionation of Moderately Volatile Elements on the Moon”, March 2019
- Tianjin University, “Intensive Degassing of Volatile Halogens on the Early Earth”, April 2018
- Caltech GeoClub seminar, “Short Lived Nuclides in the Early Solar System: Origin, Abundance, and Distribution”, January 2017
- Arizona State University, “Short Lived Nuclides in the Early Solar System”, August 2015

- 2014 Goldschmidt Conference, “ ^{60}Fe in the Early Solar Protoplanetary Disk”, June 2014
- University of California, Los Angeles, “ ^{60}Fe in the Early Solar System: Origin Abundance, and Distribution”, February 2013

Peer-reviewed Publications

- Tang H.**, Schlichting H.E., and Young E.D. Escape from a transient rock vapor atmosphere as the mechanism for isotopic fractionation of the Moon’s moderately volatile elements. (Under review)
- Tang H.**, Trail D, Bell. E. A., and Harrison. T. M. (2019) Zircon halogen geochemistry: Insights into Hadean-Archean fluids. *Geochemical Perspectives Letters* 9, 49-53.
- Young E. D., Shahar A., Schlichting H.E., Schauble E. A., Nimmo F., **Tang H.**, Labidi J. (2019) Near-equilibrium isotope fractionation during planetesimal evaporation. *Icarus* 323, 1-15.
- Jordan M., **Tang H.**, Kohl I. E., and Young E. D. (2019) Iron isotope constraints on planetesimal core formation in the Early Solar System. *Geochimica et Cosmochimica Acta* 246, 461-477.
- Tang H.**, Liu M-C, McKeegan K.D., Tissot F.L.H. and Dauphas N. (2017) In situ isotopic studies of the U-depleted Allende CAI Curious Marie: Pre-accretionary alteration and the co-existence of ^{26}Al and ^{36}Cl in the early solar nebula. *Geochimica et Cosmochimica Acta* 207, 1-18.
- Burkhardt, C., Dauphas, N., **Tang, H.**, Fischer-Gödde, M., Qin, L., Chen, J., Rout, S., Pack, A., Heck, P., Papanastassiou, D. (2017) In search for the Earth-forming reservoir: Mineralogical, chemical and isotopic characterizations of the ungrouped achondrite NWA 5363/5400 and selected chondrites. *Meteoritics & Planetary Science Letters* 52, 807-826.
- Li, W.C., Chen, R.X., Zheng, Y.F., **Tang, H.** and Hu, Z. (2016) Two episodes of partial melting in ultrahigh-pressure migmatites from deeply subducted continental crust in the Sulu orogen, China. *Geological Society of America Bulletin* 128, 1521-1542.
- Zhang, L., Chen, R.X., Zheng, Y.F., Li, W.C., Hu, Z., Yang, Y. and **Tang, H.**, (2016). The tectonic transition from oceanic subduction to continental subduction: Zirconological constraints from two types of eclogites in the North Qaidam orogen, northern Tibet. *Lithos*, 244, 122-139.
- Tang H.** and Dauphas N. (2015) ^{60}Fe - ^{60}Ni Systematics in Semarkona Chondrules and Sahara 99555: New constraint of ^{60}Fe in the Early Solar System. *Astrophysical Journal* 802, 22.
- Gao X., Zheng Y., Chen Y, **Tang H.**, & Li W. (2015) Zircon geochemistry records the action of metamorphic fluid on the formation of ultrahigh-pressure jadeite quartzite in the Dabie orogen. *Chemical Geology* 419, 158-175.
- Tang H.** and Dauphas, N. (2014) ^{60}Fe - ^{60}Ni Chronology of core formation in Mars. *Earth and Planetary Science Letters* 390, 264-274.
- Tang H.** and Dauphas, N. (2012) Abundance, distribution, and origin of ^{60}Fe in the solar protoplanetary disk. *Earth and Planetary Science Letters* 359-360, 248-263.

Conference Abstracts

- Young E.D. and **Tang H.** (2019) Isotopic Fractionation of Moderately Volatile Elements During Moon Formation. *Lunar Planet. Sci.* VL #1941.
- Tang H.**, Li Y., Trail D., and McKeegan K.D. (2019) Lithium Stable Isotope Records of Irradiation in Apollo Lunar Zircon. *Lunar Planet. Sci.* VL #1945.
- Tang H.**, Trail D., Bell E.A., and Harrison T.M. (2018) Intensive Degassing of Halogens on Early Earth Recorded in Jack Hills Zircons. *Goldschmidt 2018*, 2493.
- Young E, Jordan M, Shahr A, Schlichting H, Nimmo F. and **Tang H.** (2018) The isotopic consequences of planetesimal evaporation. *Goldschmidt 2018*, 2937.
- Tang H.**, Bell E.A., Boehnke P., Barboni M. and Harrison T.M. Sulfur in zircons: A new window into melt. *American Geophysical Union 2017*.
- Tang H.**, Liu M-C, McKeegan K.D., Tissot F.L.H. and Dauphas N. (2017) ^{36}Cl - ^{36}S in Allende CAIs: Implication for the Origins of ^{36}Cl in the Early Solar System. *Lunar Planet. Sci.* XLVIII #2618.
- Tang H.**, Liu M-C, McKeegan K.D., Tissot F.L.H. and Dauphas N. (2016) ^{36}Cl - ^{36}S Systematics in Curious Marie: A ^{26}Mg -rich U-depleted fine-grained CAI from Allende. *Lunar Planet. Sci.* XLVII #2539.
- Tang H.**, Liu M-C, McKeegan K.D., Tissot F.L.H. and Dauphas N. (2015) Oxygen composition and high ^{26}Mg excesses in a U-depleted fine-grained Allende CAI. *78th MetSoc*, #5263.
- Tang H.**, Liu M-C, McKeegan K.D. and Dauphas N. (2015) ^{26}Al - ^{26}Mg Systematics in Chondrules of An Ungrouped Type 3.05 Chondrite NWA5717. *Lunar Planet. Sci.* XLVI, #2245.
- Burkhardt C., Dauphas N., **Tang H.**, Fischer-Gödde M., Qin L., Chen J.H., Pack A., Rout S.S., Heck P.R. and Papanastassiou D.A. (2015) NWA 5363/NWA 5400 and the Earth: Isotopic twins or just distant cousins? *Lunar Planet. Sci.* XLVI, #2732.
- Tang H.** and Dauphas N. (2014) ^{60}Fe - ^{60}Ni Systematics in Semarkona Chondrules and Sahara 99555: New Constraint on ^{60}Fe in the Early Solar System. *Lunar Planet. Sci.* XLV, #2483.
- Tang H.** and Dauphas N. (2013) ^{60}Fe - ^{60}Ni constraints on core formation and rapid accretion of Vesta and Mars. *Lunar Planet. Sci.* XLIV, #2483.
- Dauphas N., Kobayashi H., Fornace M., and **Tang H.** (2013) Chronological and dynamical constraints on the accretion of Mars. *Lunar Planet. Sci.* XLIV, #1305.
- Tang H.** and Dauphas N. (2012) Low abundance and homogeneous distribution of ^{60}Fe in the early Solar System. *Lunar Planet. Sci.* XLIII, #1703.
- Tang H.** and Dauphas N. (2011) Constraints from achondrites on the initial $^{60}\text{Fe}/^{56}\text{Fe}$ ratio of the Solar System. *Lunar Planet. Sci.* XLII, #1068.
- Tang H.** and Dauphas N. (2011) Origin and homogeneity of ^{60}Fe in the Solar System: evidence from achondrites and unequilibrated ordinary chondrites. *Workshop on Formation of the First Solids in the Solar System* #9146.
- Wadhwa M., **Tang H.**, Spivak-Birndorf L., Dauphas N., and Janney P. (2011) Initial abundance of ^{60}Fe in the inner Solar System: Evidence from differentiated asteroids. *Workshop on Formation of the First Solids in the Solar System* #9132.
- Tang H.** and Dauphas N. (2010) High precision nickel isotopic analyses of meteorites. *Lunar Planet. Sci.* XLI #1773.

Tang H. and Dauphas N. Craddock P. (2009) High precision iron isotopic analyzes of meteorites and terrestrial rocks: ^{60}Fe distribution and mass fractionation laws. *Lunar Planet. Sci.* XL #1903.