Bidong Zhang, Ph.D.

Department of Earth, Environmental and Planetary Sciences, Rice University
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Employment

2024–present	**Assistant Professor**, Rice University
2023–2024	**Assistant Researcher**, University of California, Los Angeles
2020–2023	**Postdoctoral Scholar**, University of California, Los Angeles

Education

2019	**Ph.D.**, Geology and Planetary Science, University of Western Ontario, London, Canada
2015	**M.Sc.**, Marine Geology, University of Chinese Academy of Sciences, Beijing
2013	**Master's curriculum**, University of Science and Technology of China, Hefei
2012	**B.E.**, Mineral Resource Engineering, University of South China, Hengyang

Honors & Awards

2026	**The Nier Prize**, *The Meteoritical Society*
2022	Early Career Travel Award, *Extraterrestrial Materials Analysis Group*
2022	Schmitt-Cernan-Evans Travel Award, *Apollo Next Generation Sample Analysis Workshop*
2022	Travel Award, *Annual Meeting of the Lunar Exploration Analysis Group*
2021	Elsevier Early Career Award
2019	Barringer Student Travel Award, *Annual Meeting of the Meteoritical Society*
2018	Student Travel Award, *The First Billion Years: Bombardment Conference*
2017	Student Travel Award, *Annual Meeting of the Meteoritical Society*
2015	Guangzhou City Excellence Award for STEM Outreach Volunteer
2014	Excellence of Oral Presentation Award, *Guangzhou Institute of Energy Conversion*
2011	Undergraduate Student Excellence Award (Tier 3), *University of South China*
2009, 2010	Undergraduate Student Excellence Award (Tier 1), *University of South China*

Professional Service

Associate Editor and Member, Nomenclature Committee, *The Meteoritical Society* (2023–2028)

Lunar Subcommittee Member, *Extraterrestrial Materials Analysis Group (ExMAG)*

Peer Reviewer: *Advances in Space Research*; *Communications Earth & Environment*; *Earth and Planetary Science Letters*; *Geochimica et Cosmochimica Acta*; *Journal of Geophysical Research: Planets*; *Meteoritics & Planetary Science*; *Nature*; *Nature Astronomy*; *Nature Geoscience*; *Planetary and Space Science*; *Science Advances*; *Spectrochimica Acta Part B: Atomic Spectroscopy*

Session Chair: 2022 Annual Meeting of the Lunar Exploration Analysis Group; 54th, 55th, and 56th Lunar and Planetary Science Conferences; Goldschmidt 2025; GSA Connects 2026.

Proposal Reviewer, Panel Secretary, and Panelist: NASA (Emerging Worlds, Solar System Science, Solar System Science); European Research Council (ERC Advanced Grant)

Dwornik Judge: 53rd and 54th Lunar and Planetary Science Conferences

McKay Judge and Travel Award Committee: Annual Meetings of the Meteoritical Society

Grant Funding

$4,587,001 total awarded as sole PI

Current

2026–2028 **Principal Investigator**, *NASA Laboratory Analysis of Returned Samples* (80NSSC26K0207). "Developing Next-Generation Lunar Radiometric Dating by LA-MC-ICP-MS/MS." $2,554,159

2025–2027 **Principal Investigator**, *NASA Solar System Workings* (80NSSC25K7664). "Constraining the Origin and Timescale of Lunar Mg-Suite Magmatism." $969,118

2023–2027 **Principal Investigator**, *NASA Apollo Next Generation Sample Analysis* (80NSSC23K1300, now 80NSSC25K7597). "Evaluating Geochronologic Complexity and Impactor Diversity of Highland." $905,248

Completed

2023–2025 **Principal Investigator**, *NASA Emerging Worlds* (80NSSC23K0035). "Creation of a Public Archive of Iron Meteorite Compositional Data." $158,476

2022–2025 **Postdoctoral Associate**, *NASA* (NNX17AE77G). "Compositions and Parent-Body Processes in Chondrites and Irons."

Manuscripts in Review

[1] **Zhang B.**, Warren P.H., Erickson T.M., Prissel T.C., Cone K.A., Osinski G.R., Bouvier A. and Bell E.A. (2026) Is Lunar Cubic Zirconia Indicative of Superheat? A Case Study of Apollo Troctolitic Anorthosite 76335. *Geochimica et Cosmochimica Acta*. In review.

Peer-Reviewed Publications

** mentee † co-first author*

[25] Rubin A.E. and **Zhang B.** (2026) Bulk chemical compositions of carbonaceous chondrites; contributions from CAIs to refractory abundances and matrix to volatile abundances. *Meteoritics & Planetary Science*. In press.

[24] Cone K.A.*, Trail A.D., Nakajima M., Erickson T.M., Garapić G., Bell E.A., Mouser M.D., Cintala M.J., **Zhang B.**, Chen T.W. and Roy S. (2026) Experimental shock metamorphism of zircon, apatite, and whitlockite from 5–40 GPa. *Journal of Geophysical Research: Planets* 131(10), e2026JE009701.

[23] Zhu D., Chen T.W.*†, Zhao R., Timoner C., **Zhang B.** and Bouvier A. (2026) Toward robust in-situ Rb-Sr geochronology of feldspar by LA-MC-ICP-MS/MS: instrument configuration, standardization, and applications. *Journal of Analytical Atomic Spectrometry* 41(8), 3006–3019.

[22] Grewal D.S., Bhattacharjee S., **Zhang B.**, Nie N.X. and Miyazaki Y. (2025) Enrichment of moderately volatile elements in first-generation planetesimals of the inner Solar System. *Science Advances* 11(6), eadq7848.

[21] Harrison T.M., **Zhang B.**†, Parisi A. and Bell E.A. (2024) Discordancy across multiple isotopic systems in lunar impactites: Implications for dating basin-forming impacts and the Late Heavy Bombardment hypothesis. *Earth and Planetary Science Letters* 118943.

[20] Warren P.H., Isa J., **Zhang B.** and Korotev R.L. (2024) Plagioclase iron content variance: A complication for efforts to identify lunar terrains of extremely high plagioclase abundance. *Icarus* 116144.

[19] **Zhang B.**, Chabot N.L. and Rubin A.E. (2024) Compositions of iron-meteorite parent bodies constrain the structure of the protoplanetary disk. *Proceedings of the National Academy of Sciences* 121, e2306995121.

[18] Grewal D., Nie N.X., **Zhang B.**, Izidoro A. and Asimow P.D. (2024) Accretion of the earliest inner solar system planetesimals beyond the water-snowline. *Nature Astronomy*, 1–8.

[17] **Zhang B.**, Lehnert K.A., Rubin A.E., McKeegan K.D., Warren P.H., Mays J.L., Profeta L.R., Johansson A., Ni P., Young E.D., Kyte F.T., Liu M., Dunham E.T., Tang H., Peng J. and Figueroa-Salazar J.D. (2023) The UCLA Cosmochemistry Database. *Scientific Data* 10, 874.

[16] Burbine T.H., Greenwood R.C., **Zhang B.** and Buchanan P.C. (2023) How many Vesta-like bodies existed in the asteroid belt? *Meteoritics & Planetary Science* 59, 878–894.

[15] Greer J., **Zhang B.**, Isheim D., Seidman D.N., Bouvier A. and Heck P.R. (2023) 4.46 Ga lunar zircons anchor chronology of lunar magma ocean. *Geochemical Perspectives Letters* 27, 1–7.

[14] Pape J., **Zhang B.**, Spitzer F., Rubin A.E. and Kleine T. (2023) Isotopic constraints on genetic relationships among group IIIF iron meteorites, Fitzwater Pass, and the Zinder pallasite. *Meteoritics & Planetary Science* 4, 778–788.

[13] **Zhang B.**, Lin Y., Hao J., Schrader D.L., Wadhwa M., Korotev R.L., Hartmann W.K. and Bouvier A. (2023) SIMS U-Pb dating of micro-zircons in the lunar meteorites Dhofar 1528 and Dhofar 1627. *Meteoritics & Planetary Science* 58, 1540–1551.

[12] Rubin A.E. and **Zhang B.** (2022) Impact-induced devolatilization of four ungrouped ataxites and the origin of a silica glass spherule in ALHA77255. *Meteoritics & Planetary Science* 58, 85–97.

[11] **Zhang B.**, Chabot N.L. and Rubin A.E. (2022) Compositions of carbonaceous-type asteroidal cores in the early solar system. *Science Advances* 8, eabo5781.

[10] **Zhang B.**, Chabot N.L., Rubin A.E., Humayun M., Boesenberg J.S. and van Niekerk D. (2022) Chemical study of group IIIF iron meteorites and the potentially related pallasites Zinder and Northwest Africa 1911. *Geochimica et Cosmochimica Acta* 323, 202–219.

[9] Rubin A.E., **Zhang B.** and Chabot N.L. (2022) IVA iron meteorites as late-stage crystallization products affected by multiple collisional events. *Geochimica et Cosmochimica Acta* 331, 1–17.

[8] Chabot N.L. and **Zhang B.** (2021) A revised trapped melt model for iron meteorites applied to the IIIAB group. *Meteoritics & Planetary Science* 57, 200–227.

[7] **Zhang B.**, Lin Y., Moser D.E., Hao J., Zhang J., Liu Y., Barker I.R., Li Q., Shieh R.S. and Bouvier A. (2021) Radiogenic Pb mobilization induced by shock metamorphism of zircons in the Apollo 72255 Civet Cat norite clast. *Geochimica et Cosmochimica Acta* 302, 175–192.

[6] **Zhang B.**, Lin Y., Moser D.E., Warren P.H., Hao J., Barker I.R., Shieh R.S. and Bouvier A. (2021) Timing of lunar Mg-suite magmatism constrained by SIMS U-Pb dating of Apollo norite 78238. *Earth and Planetary Science Letters* 569, 117046.

[5] **Zhang B.**, Lin Y., Moser D.E., Hao J., Shieh S.R. and Bouvier A. (2019) Imbrium origin for the zircons in Apollo 17 South Massif impact melt breccia 73155. *Journal of Geophysical Research: Planets* 124(12), 3205–3218.

[4] **Zhang B.**, Shieh R.S., Withers A.C. and Bouvier A. (2018) Raman spectroscopy of shocked enstatite-rich meteorites. *Meteoritics & Planetary Science* 53, 2067–2077.

[3] **Zhang B.**, Pan M., Wu N. and Wu D. (2018) Distribution and isotopic composition of foraminifera at cold-seep Site 973-4 in the Dongsha area, northeastern South China Sea. *Journal of Asian Earth Sciences* 168, 145–154.

[2] **Zhang B.**, Wu N. and Wu D. (2015) Characteristics of sedimentary geochemistry and their response to cold-seep activities in Dongsha, the northern South China Sea. *Marine Geology Frontiers* 31, 14–27.

[1] Wu N., **Zhang B.** and Wu D. (2015) Fractionation mechanism and paleoceanographic applications of calcium isotopes in marine settings. *Advances in Earth Science* 30, 433–444.

Software & Data Resources

Web tool — **IronGram** — online iron-meteorite plotting and classification tool. bidongzhang.com/irongram

Conference Abstracts

** mentee*

[37] **Zhang B.**, Zhu D., Chen T.W.*, Zhao R., Timoner C., Bouvier A. (2026) Toward robust in situ Rb-Sr geochronology of extraterrestrial feldspar by LA-MC-ICP-MS/MS. *GSA Connects 2026*, Denver.

[36] Cone K.A.*, Trail D., Nakajima M., Erickson T.M., Garapić G., Mouser M., Bell E.A., Cintala M., **Zhang B.**, Chen T.W. and Roy S. (2026) Zircon, apatite, and whitlockite: an investigation into shock-metamorphosed microstructures. *57th Lunar and Planetary Science Conference*.

[35] Chen T.W.*, Zhao R., Zhu D., Timoner C., Bouvier A. and **Zhang B.** (2025) In situ Rb-Sr analyses of extraterrestrial materials: method development and applications to meteorites and lunar samples. *AGU Annual Meeting 2025*.

[34] **Zhang B.**, Chabot N.L. and Rubin A.E. (2025) Using iron meteorites to constrain the chemical and physical structures of the protoplanetary disk. Invited presentation at *GSA Connects 2025 Meeting*.

[33] **Zhang B.**, Warren P.H., Chen T.W. and Bell E.A. (2025) Searching for concordancy between the U-Pb and Ar-Ar Radiometric systems in various types of Apollo Impactites. Oral presentation at *GSA Connects 2025 Meeting*.

[32] Warren P.H. and **Zhang B.** (2024) Petrologic investigation of four allegedly low-sodium plutonic norites from Apollo 15. *56th Lunar and Planetary Science Conference*.

[31] Pham E., Ni P., Zhang S. and **Zhang B.** (2024) An online iron-meteorite classification tool. *56th Lunar and Planetary Science Conference*.

[30] **Zhang B.**, Warren P.H., Erickson T.M., Prissel T.C., Osinski G.R., Bouvier A. and Bell E.A. (2026) Two distinct origins of the Apollo mg-suite rocks. Oral presentation at *56th Lunar and Planetary Science Conference*.

[29] Timoner C., Zhao R., Zhu D., **Zhang B.** and Bouvier A. (2025) Asteroidal anorthosites: Tracking protoplanetary crust formation in the early solar system. *86th Annual Meeting of the Meteoritical Society*.

[28] Warren P.H., **Zhang B.**, Isa J. and Korotev R.L. (2024) Diverse iron contents in lunar plagioclase, and implications for remote sensing of plagioclase abundance. *86th Annual Meeting of the Meteoritical Society*.

[27] Hu S., Anand M., Franchi I.A., Zhao X., **Zhang B.**, Bouvier A., Hao J.L., Yang W., Liu Y., Tang G.Q., Li Q.L., Agee C. and Lin Y.T. (2024) Water rich phosphate from the unbrecciated basaltic eucrite Northwest Africa 15965. *86th Annual Meeting of the Meteoritical Society*.

[26] **Zhang B.**, Timoner C., Zhao R., Zhu D. and Bouvier A. (2024) In situ Rb-Sr geochronology using MC-ICP-MS/MS. Oral presentation at *Goldschmidt Conference*.

[25] **Zhang B.**, Harrison T.M., Parisi A., Bell E.A., Hodges K.V. and Mercer C.M. (2024) Discordancy across multiple isotopic systems in lunar impactites: Implications for dating basin-forming impacts and the Late Heavy Bombardment Hypothesis. Oral presentation at *55th Lunar and Planetary Science Conference* (#2806).

[24] **Zhang B.**, Chabot N.L. and Rubin A.E. (2024) Compositions of iron-meteorite parent bodies: Constraints on the structure of the protoplanetary disk. *55th Lunar and Planetary Science Conference* (#2806).

[23] **Zhang B.**, Chabot N.L. and Rubin A.E. (2023) Compositions of asteroidal cores across the early Solar System. *Gordon Research Conference*.

[22] Harrison T.M., **Zhang B.**, Parisi A., Bell E.A. and Hodges K.V. (2023) A search for age concordancy in lunar sample 73217. *85th Annual Meeting of the Meteoritical Society*.

[21] **Zhang B.**, Warren P.H., Erickson T.M., McKeegan K.D. and Bell E.A. (2026) Evidence for possible impact origin of Apollo troctolitic anorthosite 76335 preserved in cryptic cubic zirconia. Oral presentation at *85th Annual Meeting of the Meteoritical Society*.

[20] Utas J.A., **Zhang B.** and Young E.D. (2023) A comparison of analytical methods for iron meteorites. *85th Annual Meeting of the Meteoritical Society*.

[19] **Zhang B.**, Chabot N.L. and Rubin A.E. (2023) Compositions of carbonaceous-type asteroidal cores in the early Solar System. Oral presentation at *54th Lunar and Planetary Science Conference* (#2806).

[18] **Zhang B.**, Greer J., Isheim D., Seidman D.N., Bouvier A. and Heck P.R. (2022) Atom probe tomography of a 4.45 Ga zircon supporting early crystallization of the lunar magma ocean. *The Apollo 17 ANGSA Workshop*.

[17] **Zhang B.**, Warren P.H., McKeegan K.D. and Bell E.A. (2022) Apollo impact melt breccia 73275 as an Imbrium ejectum into the Apollo 17 Serenitatis landing site: Implications from SIMS U-Pb dating of micro-baddeleyites. Oral presentation at *Annual Meeting of Lunar Exploration Analysis Group*.

[16] Pape J., **Zhang B.**, Spitzer F., Rubin A.E. and Kleine T. Tungsten and molybdenum isotopic constraints on the origin and chronology of IIIF iron meteorites. *85th Annual Meeting of the Meteoritical Society*.

[15] **Zhang B.**, Warren P.H., McKeegan K.D., Young E.D., Rubin A.E., Lehnert K.A., Profeta L.A., Johansson A.K., Ji P., Figueroa-Salazar J.D. and Mays J.L. (2022) The UCLA Cosmochemistry Database. Flash talk at *Goldschmidt Conference*.

[14] **Zhang B.**, Warren P.H., Rubin A.E., Lehnert K.A., Profeta L.R., Johansson A.K., Ji P., Figueroa-Salazar J.D. and Mays J.L. (2022) The UCLA Cosmochemistry Database. Oral presentation at *General Assembly of the European Geosciences Union*.

[13] **Zhang B.**, Warren P.H., Rubin A.E., Lehnert K.A., Profeta L.R., Johansson A.K., Ji P., Figueroa-Salazar J.D. and Mays J.L. (2021) The UCLA Cosmochemistry Database. Poster at *53rd Lunar and Planetary Science Conference*.

[12] **Zhang B.**, Chabot N.L. and Rubin A.E. (2021) Fractional crystallization modeling of carbonaceous-type iron meteorites. Oral presentation at *84th Annual Meeting of the Meteoritical Society*.

[11] Reger P.M., **Zhang B.**, Gannoun A.M., Regelous M., Agee C.B. and Bouvier A. (2021) Chronology of the unique angrite Northwest Africa 10463. *84th Annual Meeting of the Meteoritical Society*.

[10] Greer J., **Zhang B.**, Isheim D., Seidman D.N., Bouvier A. and Heck P.R. (2021) Atom probe tomography of 4.45 Ga lunar zircon from the Apollo 17 Civet Cat Norite clast. *84th Annual Meeting of the Meteoritical Society*.

[9] Rubin A.E. and **Zhang B.** (2021) The Nordheim Trio: IAB-an irons that experienced devolatilization and silicate vaporization. *84th Annual Meeting of the Meteoritical Society*.

[8] Reger P.M., **Zhang B.**, Gannoun A.M., Regelous M., Agee C.B. and Bouvier A. (2021) Chronology of the unique angrite meteorite Northwest Africa 10463. *Geological Association of Canada and Mineralogical Association of Canada (GAC-MAC) 2021 Joint Annual Meeting*.

[7] **Zhang B.**, Chabot N.L., Rubin A.E., Humayun M., Boesenberg J.S. and van Niekerk D. (2021) Chemical composition and fractional crystallization of IIIF iron meteorites. *52nd Lunar and Planetary Science Conference*.

[6] **Zhang B.**, Reger P.M., Gannoun A., Boyet M., Schrader D.L., Wadhwa M., Ferrière L. and Bouvier A. (2019) Pb-Pb chronometry of impact melt from lunar meteorite Oued Awlitis 001. Oral presentation at *82nd Annual Meeting of the Meteoritical Society*.

[5] Hu S., Anand M., Franchi I.A., Zhao X., Chan Q.H.S., **Zhang B.**, Bouvier A., Lin Y.T., Zhang J.C., Hao J.L., Yang W., Liu Y., Tang G.Q., Li Q.L. and Agee C. (2019) U-Pb dating, hydrogen and chlorine isotopic systematics of the whitlockite and apatite from the ungrouped achondrite Northwest Africa 11119. *82nd Annual Meeting of the Meteoritical Society*.

[4] **Zhang B.**, Lin Y., Moser D.E., Shieh R.S. and Bouvier A. (2018) Imbrium zircon age for Apollo 73155 Serenitatis impact melt breccia: Implications for the lunar bombardment history. Oral presentation at *The First Billion Years: Bombardment Conference*.

[3] **Zhang B.**, Shieh R.S. and Bouvier A. (2017) Assessing shock levels of enstatite-rich meteorites by Raman spectroscopy. Oral presentation at *80th Annual Meeting of the Meteoritical Society* (Vol. 1987).

[2] Wu D., Pan M. and **Zhang B.** (2016) Foraminiferal assemblages and geochemistry characteristics in the Dongsha cold-seep activities area, northern South China Sea. *Goldschmidt Conference* (#3441).

[1] Wu D., **Zhang B.** and Wu N. (2015) Carbon and oxygen isotopes of foraminifera response to climate changes in Dongsha area, the northern South China Sea. *Goldschmidt Conference* (#3455).

Invited Talks

Sep 2026	Washington University at St. Louis — *In situ Rb-Sr geochronology of lunar samples: From method development to applications*
Mar 2026	University of Houston — *Using Iron Meteorites to Constrain the Chemical and Physical Structures of the Protoplanetary Disk*

Oct 2025	University of Louisiana at Lafayette — *Using Iron Meteorites to Constrain the Chemical and Physical Structures of the Protoplanetary Disk*
Sep 2025	Washington University in St. Louis — *In situ Rb-Sr Geochronology of Lunar Samples: From Method Development to Applications*
Feb 2025	UCLA SIMS Workshop — *In situ Rb-Sr Geochronology Using LA-MC-ICP-MS/MS*
Feb 2025	Caltech Cosmochemistry Reading Group — *Asteroidal Cores and Their Constraints on the Evolution of the Protoplanetary Disk*
Sep 2024	Institute of Geology and Geophysics, Chinese Academy of Sciences — *Advances in the Geochronology of the Lunar Magma Ocean*
Jun 2024	Konkoly Observatory — *Compositions of Iron-Meteorite Parent Bodies Constrain the Structure of the Protoplanetary Disk*
Apr 2024	UCLA EEPS Research Seminar — *Using Iron Meteorites to Constrain the Evolution of the Protoplanetary Disk*
Nov 2023	University of Bayreuth — *Compositions of Asteroidal Cores across the Early Solar System*
Feb 2022	Arizona State University — *Compositions of Asteroidal Cores in the Early Solar System*

Teaching

Fall 2026	EEPS 515 Cosmochemistry Seminar
Spring 2026	EEPS 418/618 Isotope Geochemistry
Fall 2025	EEPS 417/617 Cosmochemistry and Meteoritics
Spring 2025	EEPS 515 Cosmochemistry Seminar

Advising & Mentorship

Primary advisor

2026–present	**Siddhartha Bharadwaj**, postdoc
2026–present	**Kathryn Stone**, undergraduate intern
2025–present	**Tsai-Wei Chen**, postdoc
2025–2026	**Kim Cone**, postdoc; now Postdoctoral Associate, University of Rochester
2025–present	**Amelia Bettati**, PhD student
2025–present	**Aida Castelblanco**, PhD student
2025–2026	**Neeraja Chinchalkar**, visiting postdoc; now Assistant Research Professor and Deputy Director, Buseck Center for Meteorite Studies, Arizona State University
2025	**Noam Eber**, high school intern (May–July)

Qualifying exam committee

Baibhav Srivastava (PhD student); Sanskruti Admane (PhD student)

Thesis committee

Haolin Zhou (now postdoc, University of Texas at Austin); Tom Zhang (PhD student); Dian Ji (PhD student)

University & Department Service

University	Shared Equipment Authority, committee member
	Rice Space Institute Center for Planetary Origins to Habitability, Faculty Advisory Committee
Department	Undergraduate Curriculum Committee, committee member
	Laboratories and Safety Committee, committee member
	Webpage Committee, committee member