Nicolas Dauphas

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CONTACT INFORMATION

Origins Laboratory, The University of Chicago
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RESEARCH INTERESTS

Meteorites, isotope cosmochemistry, nuclear cosmochronology and nucleosynthesis, early Earth geochemistry and the origin of life, formation of the terrestrial atmosphere.

EDUCATION

2002 Ph.D. Institut National Polytechnique de Lorraine, Nancy, France.
1998 M.Sc. Institut National Polytechnique de Lorraine, Nancy, France.
1998 B.Sc. École Nationale Supérieure de Géologie, Nancy, France.

EMPLOYMENT

2016-Present Louis Block Professor, Department of the Geophysical Sciences and Enrico Fermi Institute, The University of Chicago.
2012-2016 Professor, Department of the Geophysical Sciences and Enrico Fermi Institute, The University of Chicago.
2008-2012 Associate Professor, Department of the Geophysical Sciences and Enrico Fermi Institute, The University of Chicago.
2004-2008 Assistant Professor, Department of the Geophysical Sciences and Enrico Fermi Institute, The University of Chicago.
2002- Research Associate, Field Museum.
2002-2004 Research Associate, Enrico Fermi Institute, The University of Chicago.

Visiting scholar
Observatoire de Grenoble (Laboratoire de Planétologie), January 2011.
Caltech (Division of Geological and Planetary Sciences), January-June 2009

HONORS AND AWARDS

- Geochemical Fellow of the Geochemical Society and European Association of Geochemistry, 2019
- Daly Lecture, AGU, 2018
- Blavatnik National Awards Finalist, 2017
- Fellow of the Meteoritical Society, 2016
- Prix Scientifique 2014, Société Française des IsotopeS (SFIS)
- Spitzer Lecturer, Dpt of Astrophysical Sciences, Princeton, 2015
- Fellow of the American Geophysical Union, 2011
- Macelwane Medal of the American Geophysical Union, 2011
- Moore Distinguished Scholar, Caltech, 2009
- Houtermans Medal of the European Association for Geochemistry, 2008
- David and Lucile Packard Foundation Fellowship, 2007.
- Nier Prize of the Meteoritical Society, 2005.
- Paul Pellas-Graham Ryder Award, 2002, Meteoritical Society and the Geological Society of America Division of Planetary Geology, for "Dauphas N., Marty B., and Reisberg L. (2002). Molybdenum evidence for inherited planetary scale isotope heterogeneity of the protosolar nebula. *Astrophys. J.* **565**, 640-644".

• *Geochemical Journal* best paper award, 2002, for "Dauphas N., Reisberg L., and Marty B. (2002). An alternative explanation for the distribution of highly siderophile elements in the Earth. *Geochem. J.* **36**, 409-419".

INTELLECTUAL PROPERTY

2017 "Fluoropolymer Pneumatically/Hydraulically Actuated Liquid Chromatographic System For Use With Harsh Reagents", U.S. Patent Application #61843509 (OrLab Chromatography LLC).

FUNDING

$7,082,724 total

• 2021-2024 NASA EW. (*$745,051*) Rubidium and potassium isotopic studies of volatile element depletion in the early solar system.
• 2020-2022 NASA EW. (*$255,380*) High precision chronology of the oldest Apollo zircons: deciphering the meaning of the 4.3 Ga peak in lunar ages.
• 2020-2023 NSF CSEDI. (*$362,638*). Collaborative Research: Experimental partitioning of highly siderophile elements at ultra trace level for understanding the conditions of core formation.
• 2017-2020 NASA HW. (*$396,691*). Biotic and photo-chemical pathways to the formation of ferruginous acidic waters on Mars.
• 2017-2020 NASA EW. (*$565,000*). Refractory lithophile element studies of the formation and early evolution of the solar system.
• 2017-2020 NASA LARS. (*$573,000*). Development of a novel chromatography system for the analysis of returned samples.
• 2015-2018 NSF Petrology and High-Temperature Geochemistry. (*308,835*). Magma structure and anharmonicity controls on iron isotopic fractionation in igneous rocks.
• 2015-2018 NSF CSEDI. (*$236,344*). CSEDI: Understanding Si and Fe differentiation in the Earths mantle and core through joint collaborative experimental and theoretical research in geochemistry and mineral physics.
• 2015-2017 NASA Cosmochemistry. (*$94,705 to UofC*), co-I (PI, Michael Krawczynski). Experimental Investigations of Lunar Isotope Fractionation.
• 2014-2016 NASA Cosmochemistry. (*$118,356 to UofC*), co-I (PI, Michael Savina). Search for live supernova material in lunar regolith.
• 2014-2017 NASA LARS. (*$472,571*), Lead PI. Separation of rare earth elements by pneumatic teflon-HPLC (PT-HPLC)
• 2012-2014 ACS Petroleum Research Fund. $^{238}U/^{235}U$ Ratio as Tracer of Paleoredox Conditions: Application to the Oxygenation of the Global Ocean throughout Earth History (*$100,000*), Lead PI.
• 2012-2015 NASA Cosmochemistry. An Isotopic View of Early Solar System Processes and Timescales (*$615,000*), Lead PI.
• 2012-2015 EAR-Petrology and Geochemistry. Redox and Structural Controls on Iron Isotopic Variations in Igneous Rocks (*$249,664*), Lead PI.
• 2007-2011 FACCTS program (France and Chicago Collaborating in the Sciences). Five grants totaling (*$33,314*), Lead PI.
• 2009-2010 NSF EAR-Geobiology & Low Temp Geochem, NASA Astrobiology Institute. Collaborative Research: Environmental and Biogeochemical Reorganization during the Rise of Atmospheric Oxygen (*$35,000*), PI (with L.R. Kump, O. Rouxel, T.W. Lyons, J.L. Hannah, H.J. Stein).
• 2009-2012 NASA Cosmochemistry. Isotopic constraints on mixing and timescales in the early solar system (*$402,000*), Lead PI.
• 2007-2012 David and Lucile Packard Foundation Fellowship (*$825,000*).
• 2006-2009 NASA Cosmochemistry NNG06GG75G. Nuclear cosmochronology and solar system isotopic heterogeneities (*$210,000*), Lead PI.
• 2006-2007 NASA Cosmochemistry NNG06GG75G. Acquisition of a MC-ICPMS instrument for isotope cosmochemistry (*$484,175*), Lead PI.

Students and postdoctorates

Current

- Aleisha Johnson (postdoc; 2020-).
- Timo Hopp (postdoc; 2019-).
- Camilla Liu (graduate student, 2019-).
- Andrew Regula (graduate student, 2019-).
- James Zheng (graduate student, 2018-).
- Andrew Heard (graduate student, 2016-2021).
- Cindy Chen (graduate student, 2015-2021).
- Justin Hu (graduate student, 2014-2021).

Past

- Hao Zeng (MSc; Chemistry, 2019). Ab initio calculation of equilibrium isotopic fractionations of potassium and rubidium in minerals and water. Now at McKinsey & Company
- Nicole X. Nie (PhD, 2019). Iron isotope tracing of planetary surface processes and rubidium isotope tracing of volatile element depletion processes. Now postdoctoral fellow at the Geophysical Lab, CIW
- Sarah Aarons (postdoc, 2017-2019). Titanium isotope geochemistry. Now Assistant Professor at Scripps Institution of Oceanography, UCSD
- Matous Ptacek (MSc 2018). A statistical approach to the chemical evolution of continents. Now with Boston Consulting Group.
- Nicolas Greber (postdoc, 2015-2017). Chemical evolution of the continental crust. Now postdoc at the University of Geneva.
- Christoph Burkhardt (postdoc, 2013-2014). Neodymium nucleosynthetic anomalies: troublemakers for early solar system chronology? Now postdoctoral researcher at the University of Munster.
- François L.H. Tissot (PhD, 2015). Uranium isotope cosmochemitry. Now Assistant Professor at Caltech
- Corliss K.I. Sio (PhD, 2014). Cooling and crystallization histories of magmatic bodies by in-situ Mg-Fe isotopic analysis in zoned olivines. Now postdoctoral fellow at Lawrence Livermore National Laboratory.
- Marc-Alban Millet (Postdoc, 2012-2013) Ti double spike and stable isotope fractionation. Now Lecturer at Cardiff University
- Haolan Tang (PhD, 2013) ^{60}Fe-^{60}Ni systematics in the solar protoplanetary disk. Now postdoctoral researcher at UCLA.
- Junjun Zhang (PhD, 2012, co-advised with A.M. Davis) Titanium isotope cosmochemistry. Now financial consultant for Prudential.
- Thomas Ireland (Postdoc, 2009-2012) Development of a Teflon-HPLC system for isotope geochemistry. Now lab manager at Boston University.
- Paul Craddock (Postdoc, 2008-2011) Iron isotope geochemistry of banded iron formations and lunar mare basalts. Now Research Scientist at the Schlumberger-Doll Research Center, Cambridge, MA.
- Ali Pourmand (Postdoc, 2006-2009) Actinide and lanthanide cosmochemistry. Now associate professor at the University of Miami, Rosenstiel School of Marine & Atmospheric Science, Miami.
- Fang-Zhen Teng (Postdoc, 2007-2008) Iron isotopic fractionation during magmatic differentiation. Now professor at the University of Washington, Seattle.
- Vincent Busigny (Postdoc, 2005-2006) Iron isotopic fractionation in terrestrial analogues of martian blueberries. Now associate professor at the Institut de Physique du Globe, Paris.
- Liping Qin (PhD, 2007) High precision tungsten isotope measurements of iron meteorites. Now professor at the University of Science and Technology of China, Hefei.

SERVICE

- Board of Reviewing Editors, Science (2017-).
- Houtermans Medal Committee 2015, 2016.
- Editor (with Fang-Zhen Teng and James Watkins) of volume 82 of *Reviews in Mineralogy and Geochemistry* (2017): Non-Traditional Stable Isotopes.
- Referee: Astrophysical Journal, Chemical Geology, Chemie der Erde, Comptes Rendus Palevol, Contributions to Mineralogy and Petrology, Earth and Planetary Science Letters, Elements, Encyclopedia of Geochemistry, Geochemical Journal, Geochimica et Cosmochimica Acta, Geostandards Newsletter, Icarus, Journal of Geology, The Journal of Physical Chemistry, Meteorites and the Early Solar System II, NASA (Cosmochemistry, SRLIDAP), NSF (EAR Petrology and Geochemistry, Geobiology and low-temperature geochemistry, Instrumentation and Facilities), NERC (UK), and American Chemical Society (Petroleum Research Fund) proposals, Nature, Nature Physics, Nuclear Physics, Planetary and Space Science, PNAS, Science, Spectrochimica Acta Part B: Atomic Spectroscopy.
- Publications committee, Meteoritical Society (2007-2009).
- NASA SRLIDAP peer review panel 2008.
- NASA Cosmochemistry peer review panel 2009, 2010.
- McKay Award Committee 2010.
- Associate Editor, Geochimica et Cosmochimica Acta, 2012-2018.
- Nininger Meteorite Award Committee 2013.
- NSF CSEDI peer review panel, 2013.
- AGU Hess Medal Committee 2013.

TEACHING

GEOS 21800: Intro to petrology.
GEOS 33400: Geochronology and cosmochronology.

PROFESSIONAL SOCIETIES

Meteoritical Society, Geochemical Society, American Geophysical Union

PUBLICATIONS

⋆denotes student contribution; §denotes post-doctoral associate.
Google scholar total citations=10,512; h-index=59.

Submitted

§Hopp T., **Dauphas N.**, Spitzer F., Burkhardt C., Kleine T. (2021) Iron isotopic dichotomy of supernova nuclear statistical equilibrium origin in the early solar system. Submitted.

Charlier B.L.A., Tissot F.L.H., Vollstaedt H., **Dauphas N.**, Wilson C.J.N., Marquez R.T. (2021) Survival of presolar p-nuclide carriers in the nebula revealed by stepwise-leaching of Allende refractory inclusions. Submitted.

Dauphas N., ⋆Nie N.X., Blanchard M., Zhang Z.J., Zeng H., Ju J.Y., Meheut M., Visscher C., Canup R., §Hopp T. (2021) The extent, nature, and origin of K and Rb depletions and isotopic fractionations in Earth, Moon, and other planetary bodies. Submitted

Brož M., Chrenko O., Nesvorný D., **Dauphas N.** (2020) Early formation of terrestrial planets by convergent migration in a gas disk. Submitted.

Greber N.D., Pete T., Vilela N., Lanari P., **Dauphas N.** (2021) Titanium isotopic compositions of bulk rocks and mineral separates from the Kos magmatic suite: Insights into fractional crystallization and magma mixing processes. Submitted.

Accepted or published

146. Canup R.M., Righter K., Dauphas N., Pahlevan K., Cuk M., Lock S.J., Stewart S.T., Salmon J., Rufu R., Nakajima M., Magna T. (2021) Origin of the Earth and Moon. Submitted to *Reviews in Mineralogy and Geochemistry; New Views of the Moon II*, in press.

145. ⋆Nie N.X., **Dauphas N.**, Alp E.E., ⋆Zeng H., Sio C.K., ⋆Hu J., §Aarons S.M., ⋆Zhang Z., Tian H.-C., Prissel K.B., Breer J., Bi W., Hu M.Y., Sahar A., Roskosz M., Teng F.-Z., Krawczinsky M.J., Heck P.R., Spear F.S. (2021) Fe, Mg, and Ti isotopic fractionations between garnet, ilmenite, fayalite, biotite, and tourmaline: comparison between NRIXS, ab initial and study of mineral separates from the Moosilauke metapelite. *Geochim Cosmochim Acta*. **302**, 18-45.

144. ⋆Zhang Z., Nie N., Mendybaev R., Liu M.-C., §Hopp T., McKeegan K., **Dauphas N.** (2021) Loss and isotopic fractionation of alkali elements during diffusion-limited evaporation from molten silicate: theory and experiments. *ACS Earth and Space Chemistry*, **5**, 755-784. .

143. ⋆Chen C.X., ⋆Tissot F.L.H., Jansen M.F., Bekker A., Halverson G.P., Veizer J., **Dauphas N.** (2021) The uranium isotopic record of shales and carbonates through geologic time. *Geochimica et Cosmochimica Acta* **300**, 164-191.

142. ⋆Heard A.W., §Aarons S.M., Hofmann A., He X., Ireland T., Bekker A., Qin L., **Dauphas N.** (2021) Anoxic continental surface weathering conditions recorded by the Mesoarchean Pongola Supergroup, South Africa. *Geochimica et Cosmochimica Acta* **295**, 1-23.

141. ⋆Hu J.Y., **Dauphas N.**, Tissot F.L.H., Yokochi R., Ireland T.J., ⋆Zhang Z., Davis A.M., Ciesla F.J., Grossman L., Charlier B.L.A., Roskosz M., Alp E.E., Hu M.Y., Zhao J. (2021) Heating events in the nascent solar system recorded by rare earth element isotopic fractionation in refractory inclusions. *Science Advances*, **7**, eabc2962.

140. Li H., Tissot F.L.H., Lee S.-G., Hyung E., **Dauphas N.** (2020) Distribution coefficients of REEs, Sr, Y, Ba, Th, and U between α-HIBA and AG50W-X8 resin at pH=4.5. *ACS Earth Space Chem* **5**, 55-65.

139. §Aarons S.M., Reimink J.R., Greber N.D., ⋆Heard A.W., ⋆Zhang Z., **Dauphas N.** (2020) Titanium isotopes constrain a magmatic transition at the Haden-Archean boundary in the Acasta Gneiss Complex. *Science Advances* **6**, eabc9959.

138. ⋆Heard A.W., **Dauphas N.**, Rouxel O.J., Guilbaud R., Butler I.B., ⋆Nie N.X., Bekker A. (2020) Resolving the role of ocean iron sinks in early atmospheric oxygenation. *Science* **370**, 446-449.

137. ⋆Chen X., Wang Z., Zhang Z., Nie X., **Dauphas N.** (2020) Evidence from ab initio and transport modeling for diffusion-driven zirconium isotopic fractionation in igneous rocks. *ACS Earth and Space Chemistry* **4**, 1572-1595.

136. ⋆Nie N.X., **Dauphas N.**, Morris R.V., Mertzman S.A. (2020) Iron isotopic and chemical tracing of basalt alteration and hematite spherule formation in Hawaii: a prospective study for Mars. *Earth and Planetary Science Letters* **544**, 116385.

135. ⋆Ptacek M.P., **Dauphas N.**, Greber N. (2020) Chemical evolution of the crust from a data-driven inversion of terrigenous sediment compositions. *Earth and Planetary Science Letters* **539**, 116090.

134. ⋆Heard A.W., **Dauphas N.** (2020) Constraints on the coevolution of oxic and sulfidic ocean iron sinks from Archean-Paleoproterozoic iron isotope records. *Geology* **48**, 358-362.

133. Pravdivtseva O., Tissot F.L.H., **Dauphas N.**, Amari S. (2020) S-process Xe, Kr and Ne in the Allende Curious Marie CAI: Case for a presolar SiC carrier. *Nature Astronomy* 4(6), 617-624.

132. Roskosz M., Amet Q., Fitoussi C., **Dauphas N.**, Tissandier K., Hu M.Y., Said A., Alatas A., Alp E.E. (2020) Redox and structural controls on tin isotopic fractionations among magmas. *Geochimica et Cosmochimica Acta* **268**, 42-55.

131. *Zeng H., Rozsa V.F., *Nie N.X., *Zhang Z., Pham T.A.P., Galli G., **Dauphas N.** (2019) Ab initio calculation of equilibrium isotopic fractionations of potassium and rubidium in minerals and water. *ACS Earth Space Chem.* **3**, 2601-2612.

130. *Nie, N.X., **Dauphas N.** (2019) Vapor drainage in the protolunar disk as the cause for the depletions in Rb and K of the Moon. *ApJL* **884**, L48.

129. Deng Z., Chaussidon M., Guitreau M., Puchtel I.S., **Dauphas N.**, Moynier F. (2019) An oceanic subduction origin for Archean granitoids revealed by silicon isotopes. *Nature Geoscience* **12**, 774-778.

128. Charlier B.L.A., Tissot F.L.H., **Dauphas N.**, Wilson C.J.N. (2019) Nucleosynthetic, radiogenic and stable strontium isotopic variations in fine- and coarse-grained refractory inclusions from Allende. *Geochimica et Cosmochimica Acta* **265**, 413-430.

127. Johnson A., §Aarons S.M., **Dauphas N.**, *Nie N.X., *Zeng H., Helz R.T., Romaniello S.J., Anbar A.D. (2019) Titanium isotopic fractionation in Kilauea Iki lava lake driven by oxide crystallization. *Geochimica et Cosmochimica Acta* **264**, 180-190.

126. Tissot F.L.H., Ibanez-Meija M., Boehnke P., **Dauphas N.**, McGee D., Grove T.L., Harrison T.M. (2019) $^{238}U/^{235}U$ measurement in single-zircon crystals: Implications for the Hadean environment, magmatic differentiation and geochronology. *JAAS* **34**, 2035-2052.

125. Burkhardt C., **Dauphas N.**, Hans U., Bourdon B., Kleine T. (2019) Elemental and isotopic variability in solar system materials by mixing and processing of distinct molecular cloud reservoirs. *Geochimica et Cosmochimica Acta* **261**, 145-170.

124. Liu J., Wang W., Yang H., Wu Z., Hu M.Y., Zhao J., Bi W., Alp E.E., **Dauphas N.**, Liang W., Chen B., Lin J.-F. (2019) Carbon isotopic signatures of diamonds mediated by iron redox chemistry. *Geochemical Perspectives Letters* **10**, 51-55..

123. Greber N.D., **Dauphas N.** (2019) The chemistry of fine-grained terrigenous sediments reveals a chemically evolved Paleoarchean emerged crust. *Geochimica et Cosmochimica Acta* **255**, 247-264.

122. Liu J., Qin L., Xin J. Carlson R.W., Leya I., **Dauphas N.**., He Y. (2019) Cosmogenic effects on chromium isotopes in meteorites. *Geochimica et Cosmochimica Acta* **251**, 73-86.

121. Yang H., Lin J.-F., Hu M.Y., Roskosz M., Bi W., Zhao J., Alp E.E., Liu J., Liu J., Okuchi T., **Dauphas N.** (2019) Iron isotopic fractionation in mineral phases from Earth's lower mantle: Did terrestrial magma ocean crystallization fractionate iron isotopes? *Earth and Planetary Science Letters* **506**,113-122.

120. Prissel K.B., Krawczynski M.J., *Nie N.X., **Dauphas N.**., Couvy H., Hu M.Y., Alp E.E., Roskosz M. (2018) Experimentally determined effects of olivine crystallization and melt titanium content on iron isotopic fractionation in planetary basalts. *Geochimica et Cosmochimica Acta* bf 238, 580-598.

119. Trappitsch R., Boehnke P., Stephan T., Telus M., Savina M.R., Pardo O., Davis A.M., **Dauphas N.**, Pelin M.J., Huss G.R. (2018) New constraints for the abundance of ^{60}Fe in the early solar system. *The Astrophysical Journal Letters* **857**, L15.

118. *Tissot F.L.H., *Chen C., *Go B.M., *Naziemiec M., *Healy G., Bekker A., Swart P.K., **Dauphas N.** (2018) Control of eustasy and diagenesis on the $^{238}U/^{235}U$ of carbonates and evolution of the seawater

(^{234}U/^{238}U) during the last 1.4 Myr. *Geochimica et Cosmochimica Acta* bf 242, 233-265.

117. Brasser R., **Dauphas N.**, Mojzsis S.J. (2018) Jupiter's influence on the building blocks of Mars and Earth. *Geophysical Research Letters* bf 45, 5908-5917.

116. Sio C.K.I., Roskosz M., **Dauphas N.**, Bennett N.R., Mock T., Shahar A. (2017) The isotope effect for Mg-Fe interdiffusion in olivine and its dependence on crystal orientation, composition and temperature. *Geochimica et Cosmochimica Acta* bf 239, 463-480.

115. **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., ⋆Heard A. (2018) SciPhon: a data analysis software for Nuclear Resonant Inelastic X-ray Scattering with application to Fe, Kr, Sn, Eu and Dy. *Journal of Synchrotron Radiation* **25**, 1581-1599.

114. Bindeman I.N., Zakharov D., Palandri J., Greber N.D., **Dauphas N.**, Retallack G.J., Hoffman A., Lackey J.S., Bekker A. (2018) Rapid growth of subaerial crust and the onset of a modern hydrologic cycle at the Archean/Proterozoic transition. *Nature* **557**, 545-548.

113. Greenwood R.C., Barrat J.-A., Miller M.F., Anand M., **Dauphas N.**, Franchi I.A., Sillard P., Starkey N.A. (2018) Oxygen isotopic evidence for accretion of Earth's water before a high-energy Moon-forming giant impact. *Science Advances* bf 4, eaao5928.

112. Davis A.M., ⋆Zhang J, §Greber N., ⋆Hu J., ⋆Tissot F.L.H., **Dauphas N.** (2018) Titanium isotopes and rare earth patterns in CAIs: Evidence for thermal processing and gas-dust decoupling in the protoplanetary disk. *Geochim. Cosmochim. Acta* **221**, 275-295.

111. Stephan T., Trappitsch R., Davis A.M., Pellin M.J., Rost D., Savina M.R., Jadhav M., Kelly C.H., Gyngard F., Hoppe P., **Dauphas N.** (2018) Strontium and barium isotopes in presolar silicon carbide grains measured with CHILI- two types of X-grains. *Geochimica et Cosmochimica Acta* **221**, 109-126.

110. Trappitsch R., Stephan T., Savina M.R., Davis A.M., Pellin M.J., Rost D., Gyngard F., Gallino R., Bisterzo S., Cristallo S., **Dauphas N.** (2018) Simultaneous iron and nickel isotopic analyses of presolar silicon carbide grains. *Geochimica et Cosmochimica Acta* **221**, 87-108.

109. Dwarkadas V., **Dauphas N.**, Meyer B., Boyajian P., Bojazi M. (2017) Triggered star formation inside the shell of a Wolf-Rayed bubble as the origin of the solar system. *The Astrophysical Journal*, **851**, 147.

108. §Greber N.D., **Dauphas N.**, Bekker A., Ptacek M.P., Bindeman I.N., Hofmann A. (2017) Titanium isotopic evidence for a felsic emerged continental crust since 3.5 billion years ago. **Science** 357, 1271-1274.

107. ⋆Hu J.H., **Dauphas N.** (2017) Double-spike data reduction in the presence of isotopic anomalies. *Journal of Analytical Atomic spectrometry*, **32**, 2024-2033.

106. ⋆Tissot F.L.H., **Dauphas N.**, Grove T.L. (2017) Distinct ^{238}U/^{235}U ratios and REE patterns in plutonic and volcanic angrites: geochronologic implications and evidence for U isotope fractionation during magmatic processes. *Geochimica et Cosmochimica Acta* **213**, 593-617.

105. §Greber N.D., **Dauphas N.**, Puchtel I.S., Hofmann B.A., Arndt N.T. (2017) Titanium stable isotope fractionation in chondrites, achondrites and lunar rocks. *Geochimica et Cosmochimica Acta* **213**, 534-552.

104. Tang H., Liu M-C., McKeegan K.D., ⋆Tissot F.L.H., **Dauphas N.** (2017) *In situ* isotopic studies of the U-depleted Allende CAI *Curious Marie*: Pre-accretionary alteration and the co-existence of 26Al and 36Cl in the early solar nebula. *Geochimica et Cosmochimica Acta* **207**, 1-18.

103. §Burkhardt C., **Dauphas N.**., Tang H., Fischer-Godde M., Qin L., Chen J.H., Rout S.S., Pack A., Heck P.R., Papanastassiou D.A. (2017) In search of the Earth-forming reservoir: mineralogical, chemical, and isotopic characterizations of the ungrouped chondrite NWA 5363/5400 and selected chondrites. *Meteoritics and Planetary Science*, 10.1111/maps.12834.

102. Liu J., **Dauphas N.**, Roskosz M., Hu M.Y., Yang H., Bi W., Zhao J., Alp E.E., ⋆Hu J.Y., Lin J.-F. (2017) Iron isotopic fractionation between silicate mantle and metallic core at high pressure. *Nature Communications* **8**, 14377.

101. Teng F.-Z., **Dauphas N**, Watkins J.M. (2017) Non-traditional stable isotopes: retrospective and prospective. *Reviews in Mineralogy and Geochemistry* **82**, 1-26.

100. **Dauphas N.**, John S., Rouxel O. (2017) Iron isotope systematics. *Reviews in Mineralogy and Geochemistry* **82**, 415-510.

99. **Dauphas N.** (2017) The isotopic nature of the Earth s accreting material through time. *Nature* **541**, 521-524.

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

97. ⋆Sio C.K.I., **Dauphas N.** (2016) Thermal and crystallization histories of magmatic bodies by Monte Carlo inversion of Mg-Fe isotopic profiles in olivine. *Geology* G38056-1.

96. §Burkhardt C., Borg L.E., Brennecka G.A., Shollenberger Q.R., **Dauphas N.**, Kleine T. (2016) A nucleosynthetic origin of the Earths anomalous ^{142}Nd composition. *Nature* **537**, 394-398.

95. Konter J.G., Pietruszka A.J., Hanan B.B., Finlayson V.A., Craddock P.R., Jackson M.G., **Dauphas N.**(2016) Unusual δ^{56}Fe values in Samoan rejuvenated lavas generated in the mantle. *Earth and Planetary Science Letters* **450**, 221-232.

94. **Dauphas N.**, Schauble E.A. (2016) Mass fractionation laws, mass-independent effects, and isotopic anomalies. *Annual Reviews of Earth and Planetary Sciences* **44**, 709-783.

93. §Millet M.A., **Dauphas N.**, §Greber N., §Greber N., Burton K.W., Dale C.W., Debret B., Nowell G.M., Williams H.M. (2016) Titanium stable isotope investigation of magmatic processes on the Earth and Moon. *Earth and Planetary Science Letters* **449**, 197-205.

92. ⋆Tissot F.L.H., **Dauphas N.**, Grossman L. (2016) Origin of uranium isotope variations in early solar nebula condensates. *Sciences Advances* 2:21501400.

91. Barrat J.A., **Dauphas N/**, Gillet P., Bollinger C., Etoubleau J., Bischoff ., Yamaguchi A. (2016) Evidence from Tm anomalies for non-CI refractory lithophile element proportions in terrestrial planets and achondrites *Geochimica et Cosmochimica Acta*, **176**, 1-17.

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Running PRs

Chicago Half-Marathon 2014: 1h28m38s

Chicago Marathon 2018: 2h59m07s

Chicago Run Mag Mile 10k 2017: 38m37

Chicago hot-chocolate 15K 2018: 58m16s