

# Dian Ji

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## EDUCATION

|                |   |                  |
|----------------|---|------------------|
| 2023 – Present | <b>Ph.D.</b> in Geology<br>Department of Earth, Environmental and Planetary Sciences, Rice University<br>Advisor: Rajdeep Dasgupta  | GPA: 3.86 / 4.00 |
| 2021 – 2023    | <b>M.Sc.</b> in Geology<br>Department of Earth and Planetary Sciences, University of Tennessee<br>Advisor: Nicholas Dygert, Committee: Molly McCanta, Shichun Huang, Bradley Thomson<br>Thesis: Numerical and Experimental Constraints on Trace Element Fractionation During Lunar Magma Ocean Solidification | GPA: 4.00 / 4.00 |
| 2016 – 2020    | <b>B.E.</b> in Resource Exploration Engineering<br>College of Geosciences, China University of Petroleum, Beijing<br>Advisor: Huichuan Liu  |                  |

Google Scholar

## PUBLICATION

Total citations = 30; h-index = 3; i10-index = 2

**D. Ji**, N. Dygert, (2024) Trace element partitioning between apatite and silicate melts: Effects of major element composition, temperature, and oxygen fugacity, and implications for the volatile element budget of the lunar magma ocean. *Geochimica et Cosmochimica Acta*. doi: 10.1016/j.gca.2023.11.004  
**D. Ji**, N. Dygert, (2023) Trace element evidence for serial processing of the lunar flotation crust and a depleted bulk Moon. *Earth and Planetary Science Letters*. doi: 10.1016/j.epsl.2022.117958  
**D. Ji**, H.C. Liu, Y.L. Li, (2020) Large-scale Early Cretaceous lower-crust melting derived adakitic rocks in NE China: implications for convergent bidirectional subduction and slab rollback. *International Geology Review*. doi:10.1080/00206814.2019.1697968

## FORTHCOMING

**D. Ji**, R. Dasgupta, C.T. Lee, Water-poor cumulate source for the water-rich lunar magma suggested by the effects of magmatic recharge. *in Review*  
**D. Ji**, R. Dasgupta, Sulfur inventory of the young lunar mantle constrained by high pressure-temperature experiments on sulfide saturation of Chang'E 5 mare basalts. *in Review*  
N. Dygert, **D. Ji**, E. Etheridge, A predictive model for divalent element partitioning between clinopyroxene and basaltic melt and a europium-in-plagioclase-clinopyroxene oxybarometer for cumulate rocks. *in Revision*  
Y. Zhang, R. Dasgupta, **D. Ji**, C. Lee, Y. Peng, B. Charlier, Z. Jin, J. Chen, O. Namur, Mantle melting conditions of mare lavas on South Pole–Aitken basin of lunar farside. *resubmitted*  
C.T. Lee, J. Zhang, D. Keller, Y. Zhang, **D. Ji**, J. Mou, The enigma of silicic magmatism and the missing cumulates: extreme magmatic differentiation without low melt fractions. *in Revision*

## CONFERENCE ABSTRACTS

**D. Ji**, R. Dasgupta, 2024. Deep Sulfur Cycle in the Young Lunar Mantle Constrained by High Pressure-Temperature Experiments on Sulfide Saturation of Chang'E 5 Mare Basalts. *AGU Fall Meeting* P51E-3015.  
**D. Ji**, N. Dygert, 2024. A New Europium in Apatite-Plagioclase Oxybarometer for Lunar and Terrestrial Cumulate Rocks and Meteorites. *Lunar and Planetary Science Conference, LV #1240*.  
N. Dygert, **D. Ji**, E. Etheridge 2024. Toward a Clinopyroxene-Plagioclase Oxybarometer for Lunar and Terrestrial Cumulates: An  $fO_2$ -Dependent Predictive Model for Clinopyroxene-Melt Eu Partitioning. *Lunar and Planetary Science Conference, LV #2419*.  
N. Dygert, **D. Ji**, 2023. Serial Processing of the Lunar Crust after the Magma Ocean Stage and a Depleted Bulk Moon: Insights from a Europium-in-Plagioclase Partitioning Model. *Goldschmidt Conference, # 17023*.

**D. Ji**, N. Dygert, 2023. New experimental constraints on REE partitioning between apatite and silicate melts and a temperature and composition-dependent predictive partitioning model. *Lunar and Planetary Science Conference, LIV* #1255.

**D. Ji**, N. Dygert, 2022. Serial processing after lunar anorthositic crust formation indicated by rare earth elements in plagioclase. *Lunar and Planetary Science Conference, LIII* #1229.

**D. Ji**, N. Dygert, 2021. Eu anomalies in lunar plagioclase reflect secondary processing by subsolidus reequilibration and introduction of a KREEP component. *Goldschmidt Conference*, #3219.

N. Dygert, **D. Ji**, A.L. Fagan, C.R. Neal, D.S. Draper, J.F. Rapp, T.J. Lapen, 2021. Petrogenesis of and subsolidus reequilibration within lunar ferroan anorthosites: Two demonstrations of a new  $fO_2$ -dependent model for plagioclase-melt europium partitioning. *Lunar and Planetary Science Conference, LII*, #2352.

## CONFERENCE TALKS

|          |  |
|----------|--|
| Mar 2024 | 55th Lunar and Planetary Science Conference, Houston |
| Mar 2023 | 54th Lunar and Planetary Science Conference, Houston |
| Mar 2022 | 53rd Lunar and Planetary Science Conference, Houston |
| Jul 2021 | 31st Goldschmidt Conference, Virtual                 |

## GRANTS

|             |  |
|-------------|--|
| 2023 – 2024 | <b>MSA Grant for Student Research in Mineralogy and Petrology</b><br>Mineralogical Society of America<br>\$5,000 to Student PI: Ji |
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## HONORS & AWARDS

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|-------------|---|
| 2024        | <b>Planetary Origins to Habitability Graduate Fellowship</b> , Rice Space Institute (\$2,000)                   |
| 2024        | <b>AGU Fall Meeting Travel Award</b> , Rice University (\$500)  |
| 2023 – 2028 | <b>The Chair's Fellowship</b> , Rice University (\$10,000)  |
| 2023        | <b>Virginia &amp; James Bibee Graduate Student Professional Promise Award</b> , University of Tennessee (\$500) |
| 2023        | <b>Excellence in Teaching by GTA's Award</b> , University of Tennessee (\$500)                                  |
| 2023        | <b>Member, The Honor Society of Phi Kappa Phi</b>   |
| 2023        | <b>LPSC Meeting Travel Award</b> , University of Tennessee (\$500)  |
| 2022        | <b>Jimmy Walls Colloquium Presentation Award</b> , University of Tennessee (\$500)                              |
| 2022        | <b>LPSC Meeting Travel Award</b> University of Tennessee (\$500)  |
| 2020        | <b>Li Siguang Outstanding Student Award</b> (¥15,000)   |
| 2020        | <b>Excellent Senior Thesis Award</b> , Beijing  |
| 2020        | <b>Dean's Nomination Award</b> , China University of Petroleum (¥5,000)   |
| 2019        | <b>First-class Scholarship</b> , China University of Petroleum (¥2,000)   |
| 2018        | <b>Oriental Geophysics Company Scholarship</b> (¥3,000)   |
| 2017        | <b>Second-class Scholarship</b> , China University of Petroleum (¥1,000)  |

## SERVICE

### *Journal Reviewer*

|      |   |
|------|---|
| 2024 | Geochimica et Cosmochimica Acta × 1<br>Icarus × 1<br>Lithos × 2 |
| 2023 | Geochimica et Cosmochimica Acta × 1                             |
| 2022 | American Mineralogist × 1                                       |
| 2019 | International Geology Review × 2                                |

## PROFESSIONAL TRAINING & EXPERIENCE

**Rice University**

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|--------------------------------------|--|
| 2022 – 2023                          | <b>Research Assistant</b>  |
| <b>University of Tennessee</b>       |  |
| 2023                                 | <b>GEOL330: Igneous and Metamorphic Petrology</b> , Teaching Assistant<br>Student evaluation 5.0 / 5.0 |
| 2022                                 | <b>GEOL310: Mineralogy</b> , Teaching Assistant<br>Student evaluation 4.8 / 5.0                        |
| 2021 – 2022                          | <b>Research Assistant</b><br>Supervisor: Nicholas J. Dygert  |
| <b>University of Texas at Dallas</b> |  |
| 2019                                 | <b>Visiting scholar</b><br>Supervisor: Robert J. Stern   |

## SUPERVISION

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|-------------|--|
| Summer 2024 | <b>Aahan Roy</b> (High school intern)<br>Sulfur solubility of lunar basalts  |
| 2022 – 2023 | <b>Jordan Marshall</b> (Undergraduate, University of Tennessee)<br>Piston-cylinder experiments<br>→ Materials Engineering, University of Tennessee (PhD track) |

## FIELD EXPERIENCE

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| 2023 | <b>General field trip, New Mexico</b><br>A field trip of igneous and metamorphic rocks in Valles Caldera, Los Alamos Surge Deposits, Bandelier National Monument, Rio Grande Gorge, etc., for a week led by Dr. Cin-Ty Lee and Dr. Rajdeep Dasgupta   |
| 2022 | <b>Rio Grande Rift and Jemez Lineament xenolith sampling, New Mexico</b><br>Collected mantle and crustal xenolith from Kilbourne Hole to Cerro de Guadalupe in New Mexico for a week led by Dr. Nicholas Dygert   |
| 2022 | <b>McClung Blue Ridge Foothills Field Trip</b><br>Observed part of the transition from the external foreland fold-thrust belt of the Appalachians into the internal metamorphic core led by Dr. Bob Hatcher   |
| 2019 | <b>Archean Basic Rock Collection, Miyun</b><br>Collected Archean garnet pyroxenite<br>Measured geological occurrence of basaltic dyke group led by Dr. Huichuan Liu   |
| 2019 | <b>Field Practice in Oilfield, Dagang Oilfield</b><br>Learned the working methods of oilfield engineers, and interpretation of seismic data as well as logging data for two weeks   |
| 2018 | <b>Comprehensive Geological Field Practice, Liujiang Basin</b><br>A month-long geological field practice includes surveys of stratigraphic profiles and geological mapping, and observation of structural geological phenomena led by Dr. Liang Luo<br>Analyzed the structure phenomena logically and drew geologic maps with CorelDraw |
| 2017 | <b>General Field Practice, Western Hills of Beijing</b><br>A two-week geological field practice for learning to recognize magmatic rocks, sedimentary rocks, and metamorphic rocks led by Dr. Qin Zhang<br>Described how rock and fossil evidence are used to infer Earth's history   |

Last updated: Dec 23, 2024