

# Dian Ji

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## EDUCATION

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<b>Department of Earth and Planetary Sciences, University of Tennessee</b> MS track in Geology Advisor: Dr. Nicholas Dygert GPA: 4.0 / 4.0	June 2021 - Present Knoxville, TN
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<b>College of Geosciences, China University of Petroleum, Beijing</b> B.E. in Resource Exploration Engineering Advisor: Dr. Huichuan Liu GPA: 3.9 / 5.0 (Average score: 89 / 100) Rank: 4 / 117 (Top 3.4%)	Sep 2016 - Jun 2020 Beijing
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## PUBLICATION

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**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**, (2019) 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

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**D. Ji, N. Dygert**, Trace element partitioning between apatite and silicate melts. *In Preparation*

## CONFERENCE ABSTRACTS

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**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. (submitted)

**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

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53rd Lunar and Planetary Science Conference, Houston	Mar 2022
31st Goldschmidt Conference, Virtual	Jul 2021

## TRAINING

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<b>Teaching Assistant, University of Tennessee</b> GEOL330: Igneous and Metamorphic Petrology	Jan 2023 – May 2023
<b>Teaching Assistant, University of Tennessee</b> GEOL310: Mineralogy	Aug 2022 – Dec 2022
<b>Research Assistant, University of Tennessee</b>	June 2021 – July 2022

Supervisor: Dr. Nicholas Dygert

## RESEARCH

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### **Research on the trace element partitioning between apatite and silicate melts** Apr 2022 – Present

- Expanded the dataset of partition coefficients between apatite and silicate melt through piston cylinder experiments
- Conducted a series of experiments with constant initial composition but different metal buffers to characterize the Eu anomaly of apatite under different oxygen fugacities
- Built predictive models to calculate the partition coefficients of trace elements between apatite and silicate melts

### **Research on the Eu anomalies in lunar plagioclase** Sep 2020 – Apr 2022

- Compiled published crystallization sequences and cumulate products of the lunar magma ocean
- Numerical modeled the trace element abundances of crystallized plagioclase, and tested the reasons of Eu anomalies by subsolidus reequilibration and KREEP addition
- Proposed a post-LMO model to explain the petrogenesis of lunar anorthosites and to reconcile the trace elements, isotopic evidence, and the overlap in ages of Mg-suite, KREEP basalt, and ferroan anorthosites

### **Laboratory Work and Visiting in UT Dallas** Jul 2019 – Sep 2019

- Worked in the Global Magmatic and Tectonic Research Laboratory with Dr. Robert Stern at UT Dallas on a project aims at determining the petrogenesis of all the Early Cretaceous adakites in China

### **Research on Petrogenesis of Early Cretaceous Adakites in Northeast China** Oct 2018 – Apr 2019

- Aimed at figuring out the controversial tectonic settings in NE China by confirming the petrogenesis of the large-scale Early Cretaceous adakitic rocks
- Compiled the temporal and spatial distribution as well as the major elements, trace elements, and Sr-Nd, Lu-Hf isotopic data of the Early Cretaceous adakites
- Proposed a convergent bidirectional subduction model to explain the tectonic settings

## HONORS & AWARDS

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| • <b>Jimmy Walls Colloquium Presentation Award</b> , University of Tennessee                        | 2022 |
| • <b>Li Siguang Outstanding Student Award</b> (the highest undergraduate geoscience award in China) | 2020 |
| • <b>Excellent Senior Thesis Award</b> , Beijing  | 2020 |
| • <b>Dean's Nomination Award of College of Geosciences</b> , China University of Petroleum          | 2020 |
| • <b>First-class Scholarship</b> , China University of Petroleum                                    | 2019 |
| • <b>Second Prize in Tectonic Knowledge Competition</b> , China University of Petroleum             | 2019 |
| • <b>Oriental Geophysics Company Scholarship</b>  | 2018 |
| • <b>First Prize of the 2018 "FLTRP Cup" English Reading Contest</b>                                | 2018 |
| • <b>Third Prize of Comprehensive Geological Skills Competition</b> , China University of Petroleum | 2018 |
| • <b>Second Prize in Tectonic Knowledge Competition</b> , China University of Petroleum             | 2018 |
| • <b>Third Prize in General Geology Knowledge Competition</b> , China University of Petroleum       | 2018 |
| • <b>Second-class Scholarship</b> , China University of Petroleum                                   | 2017 |

## SERVICE

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### **Journal Reviewer**

American Mineralogist; International Geology Review (×2)

## FIELD EXPERIENCE

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<b>Rio Grande Rift and Jemez Lineament xenolith sampling, New Mexico</b>	2022
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- Collected mantle and crustal xenolith from Kilbourne Hole to Cerro de Guadalupe in New Mexico for a week led by Dr. Nicholas Dygert

#### **McClung Blue Ridge Foothills Field Trip** 2022

- 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

#### **Archean Basic Rock Collection, Miyun** 2019

- Collected Archean garnet pyroxenite
- Measured geological occurrence of basaltic dyke group led by Dr. Huichuan Liu

#### **Field Practice in Oilfield, Dagang Oilfield** 2019

- Learned the working methods of oilfield engineers, and interpretation of seismic data as well as logging data for two weeks

#### **Comprehensive Geological Field Practice, Liujiang Basin** 2018

- 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
- Analyzed the structure phenomena logically and drew geologic maps with CorelDraw

#### **General Field Practice, Western Hills of Beijing** 2017

- A two-week geological field practice for learning to recognize magmatic rocks, sedimentary rocks, and metamorphic rocks led by Dr. Qin Zhang
- Described how rock and fossil evidence are used to infer Earth's history

### **SKILLS**

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- MATLAB, R, C/C++, Adobe Illustrator, Photoshop, CorelDRAW, Grapher, Surfer, Iqpet
- Piston Cylinder, Gas Mixing Furnace, Scanning Electron Microscope, Electron Probe Microanalyzer, LA-ICP-MS