AOSHUANG JI **CURRICULUM VITAE**

Pennsylvania State University
Department of Geosciences
405 Deike Building
University Park, PA 16802

Tel: 1(814)826-9491
Email: azj64@psu.edu

Education

2019.09 – Present **Pennsylvania State University, PA, US**
Degree: Ph.D. in Geosciences and Astrobiology, Advisor: James F. Kasting
Will be received in Spring 2024 (Defended in October 2023)

2017.08 – 2019.09 **Pennsylvania State University, PA, US**
Department of Geosciences
Degree: Master of Science in Geosciences, Advisor: Tieyuan Zhu

2012.09 – 2017.06 **Sun Yat-sen University, Guangzhou, China**
School of Earth Science and Geological Engineering
Degree: Bachelor of Science in Geology

Areas of Interest

Atmosphere evolution; Planetary science; Astrobiology; Climate modeling; Paleoclimate.

List of Publications

[1] **Ji A**, Kasting JF, Najjar RG. (In Preparation) Investigation of O_2 level and its stability during the mid-Proterozoic.
[2] Chaverot G, Zorzi A., Ding X, Itcovitz J, Fan B, Bhatnagar S, **Ji A**, Graham RJ and Mittal T. (In Review) Resilience of snowball Earth to stochastic events.
[3] **Ji A**, Tomazzeli O, Palancar G, Chaverot G, Barker M, Fernández R, Minschwaner K, Kasting JF. (In Press) A Correlated-k Parameterization for O_2 Photolysis in the Schumann-Runge Bands. *JGR: Atmospheres.*
[4] **Ji A**, Kasting JF, Cooke GJ, Marsh DR, Tsigaridis K. (2023) Comparison between ozone column depths and methane lifetimes computed by 1-D and 3-D models at different atmospheric O_2 levels. *Royal Society Open Science*. 10(5): 230056. *https://doi.org/10.1098/rsos.230056*.
[5] Liu P, Liu J, **Ji A**, Reinhard CT, Planavsky NJ, Babikov D, Najjar RG, Kasting JF. (2021) Triple oxygen isotope constraints on atmospheric O_2 and biological productivity during the mid-Proterozoic. Proc Natl Acad Sci USA. 118(51): e2105074118. *https://doi.org/10.1073/pnas.2105074118.*
[6] **Ji A**, Zhu T, Marín-Moreno H, Lei X. (2021) How gas-hydrate saturation and morphology control seismic attenuation: A case study from the south Hydrate Ridge. *Interpretation.* 9(2): SD27-SD39. *https://doi.org/10.1190/INT-2020-0137.1.*

Conference Presentations (Presenter underlined)

2023.07 Aoshuang Ji, James F. Kasting, Calculating the ozone column depth in Earth's early atmosphere, Talk, Goldschmidt

2023.05 Aoshuang Ji, James F. Kasting, Comparison between ozone column depths and methane lifetimes computed by 1-D and 3-D models at different atmospheric O_2 levels, Talk, Astrobio2023 Workshop

2022.07 Aoshuang Ji, James F. Kasting, Controlling factors for atmospheric O_2 during the mid-Proterozoic, Talk, Goldschmidt

2019.08 Aoshuang Ji, Tieyuan Zhu, Héctor Marín-Moreno, Seismic attenuation improves the understanding of hydrate saturation and the gas hydrate morphology in southern Hydrate Ridge, Talk, International Association for Mathematical Geosciences

Computational Skills

Programming Language: Fortran, MATLAB, R
Applications: Excel/Word/PowerPoint, ArcGIS, LaTeX

Course Work

Fall 2022	ASTRO 576 *The Searching for Extraterrestrial Intelligence (SETI)*
Spring 2022	GEOSC 410 *Marine Biogeochemistry* (Audit)
Spring 2021	ABIOL 574 *Planetary Habitability*
	GEOSC 597 *Words to Live by: Writing Science*
Fall 2020	GEOSC 502 *Evolution of Biosphere*
	METEO 466 *Planetary Atmosphere*
Fall 2019	METEO 436 *Radiation and Climate*
	ABIOL 590 *Astrobiology Seminar*

Teaching Experiences

Spring 2023	Teaching Assistant, *Natural Disaster: Hollywood vs. Reality*
Fall 2022	Teaching Assistant, *The Earth System*
Spring 2022	Teaching Assistant, *The Earth system*
Fall 2021	Teaching Assistant, *The Sea Around Us*
Spring 2021	Teaching Assistant, *The Earth System*
Fall 2020	Teaching Assistant, *Geology of the National Parks*
Spring 2020	Teaching Assistant, *The Earth System*
Fall 2019	Teaching Assistant, *The Sea Around Us*
Spring 2019	Teaching Assistant, *Geology of Oil and Gas*
Spring 2018	Teaching Assistant, *Geology of the National Parks*

Field Works and Workshops

2023.05 ***ASTROBIO2023 Green Bank Observatory Workshop***

- Oxygen in Planetary Biospheres

2022.07 ***U.C. Berkely CIDER2022 Summer Workshop***

- Earth's Evolution as An Inhabited World.

2019.04 ***Death Valley***

- Analyzed the alluvia fan depositions in an active pull-apart basin; investigated the Neoproterozoic to Cambrian Carbonate formations deposited on passive margin.

2018.06 ***Shale Hill Seismic Experiment***

- Deployed seismometers and sledged the hammer to get the seismic data for studying the critical zone in the shale hills.

2017.09 ***Green Lake Internship, US***

- Understood the basic field work in geology for the new coming graduate students in Geosciences.

Research Experiences Before Ph.D.

2018.04 – 2019.08 ***Estimation of seismic attenuation on the gas hydrates in Oregon, US***

- Analysis Vertical Seismic Profile (VSP), sonic log data and 3D seismic data to estimate seismic attenuation separately to learn the data processing and data analyzing.

2016.07 – 2017.06 ***Classification and Identification of Foraminifers in Drill Holes of the Pearl River Delta and Reconstruction of Marine Environment***

- Conducted sampling analyses of the drill holes in the Pearl River Delta, got foraminifers of different sizes after pretreatment, decided their species according to their morphological characteristics and counted the species, estimated the marine environment at that time by referring to the living conditions of different species, carried out cluster analysis and principal component analysis with obtained data via ArcGIS and SPASS, so as to reconstruct the paleoenvironment.

Academic Honors and Awards

2023.07 Goldschmidt2023 Student Travel Grant
2023.03 Krynine Travel Award in Geosciences Department
2022.08 Hiroshi and Koya Ohmoto Graduate Fellowship in Geosciences Department
2022.08 Krynine Travel Award in Geosciences Department
2020.06 Richard Standish Good Scholarship Award in Geosciences Department
2017 – 2018 Fund for Excellence in Graduate Recruitment (FEGR) of PSU