



THE UNIVERSITY OF CHICAGO

DORIAN SCHUYLER ABBOT
THE UNIVERSITY OF CHICAGO
GEOPHYSICAL SCIENCES
5734 SOUTH ELLIS AVENUE
CHICAGO, IL 60637
ABBOT@UCHICAGO.EDU

Research Focus

I use low-order mathematical models and complex numerical models to understand climate, paleoclimate, the cryosphere, planetary habitability, and exoplanets.

Positions

2015-Present	Associate Prof	Geophysical Sciences	U. of Chicago
2011-2015	Assistant Prof	Geophysical Sciences	U. of Chicago

Education

2009-2011	Postdoc	Geophysical Sciences	U. of Chicago
2008-2009	Postdoc	Earth and Planet. Sci.	Harvard
2008	PhD	Applied Mathematics	Harvard
2004	S.M.	Applied Mathematics	Harvard
2004	A.B.	Physics	Harvard

Science Family

Advisor

◦Eli Tziperman

Postdocs

◦Stephanie Olson	2018-	“3D ozone calculations for ancient Earth and exoplanets”
◦Tad Komacek	2018-	“The effects of clouds on the atmospheres of terrestrial exoplanets”
◦Jun Yang	2012-15	“M-star planet habitability”
◦Yi-Ping Ma	2011-13	“Mathematics of climate”

PhD Students

◦Haynes Stephens	ex. 2023	“Exoplanet and habitability fun”
◦Jade Checlair	ex. 2021	“Statistical approach to exoplanet habitability”
◦Predrag Popović	ex. 2019	“Fractal behavior of sea ice melt ponds”

- Jonah Bloch-Johnson ex. 2018 “Climate feedback temperature dependence”
- Navah Farahat ex. 2018 “Climate and seafloor weathering”
- David Plotkin ex. 2018 “Rare events in geophysical systems”
- Daniel Koll 2016 “Dry atmospheric circulations on rocky exoplanets”

MS Students

- Nathan Baskin 2016 “The effect of forced orbital evolution on planetary habitability”

Undergraduates

- Jeffrey Yang 2018 “Tidally locked runaway greenhouse”
- Andrea Salazar 2018- “Tidally locked snowball planets”
- Olivia Alcabes 2018- “Gaia investigation”
- Francisco Spaulding-Astudillo 2017-18 “Global glaciation and thick ice flow”
- R.J. Graham 2016-18 “Snowball Earth stratospheric circulation”
- Sean Mills 2011-12 “Weak temperature gradient approximation for tidally locked planets”

Courses Taught

Radiative Transfer (Undergraduate+Graduate)
 The Atmosphere (Undergraduate)
 Fundamentals of Geophysical Fluid Dynamics (Graduate)
 What makes a planet habitable? (Undergraduate+Graduate)
 Mathematical Methods for Earth Science (Graduate)
 Topics in Atmospheric Science (Graduate)

Publications

<https://scholar.google.com/citations?user=UqDnxT0AAAAJ&hl=en>