

Education

University of Southern California (USC), **Current**, PhD Candidate, Geobiology, **August 2024**

Research Goal: To explore the habitability of Titan for microbial acetylenotrophy using thermodynamics and culturing experiments.

University of Colorado at Boulder (CU), BA Astronomy, Cum Laude **May 2019**

Research

Research Assistant—USC Amend Lab

PI: Dr. Jan Amend Co-Advisor: Dr. Morgan Cable

Aug '19 – Present

Goal: To characterize acetylene fermentation habitability on Titan

Undergraduate Research Assistant

PI: Dr. Bryan Holler Goal: To find short term temporal changes in Pluto's surface composition from spectral data

Feb '16 – Feb '21

Research Assistant—CU Boulder Alpine Microbiology Lab

PI: Dr. Steve Schmidt Goal: Troubleshoot a metagenomics/bioinformatics pipeline; assist with sample analysis

Mar —July '19

Student Engineer—Center for Astrophysics & Space Astronomy

Advisor: Dr. James Green, UV Sounding Rocket Program Goal: To assist in the preparation of hardware for spaceflight

Aug '17—Mar '18

WAVE Fellow—NASA Jet Propulsion Laboratory

Advisors: Drs. Morgan Cable & Cynthia Philips Goal: To constrain the spatial variations due to geochemistry of Europa's surface/subsurface

Summer '18

WAVE Fellow—NASA Jet Propulsion Laboratory

Advisors: Drs. Morgan Cable & Rob Hodyss Goal: To obtain near-IR spectra of methyl radical chemistry products in various matrices

Summer '17

Awards/Recognitions

Graduate

Certificate-Future Faculty Teaching Institute, Center for Excellence in Teaching, 2021

University Outstanding TA Award—CET, awarded to top TA across the university, 2021

Undergraduate

Cum Laude Honors—awarded May 2019

McNair Scholar—May 2018-Present, Merit-based, national scholarship program

Undergraduate Research Opportunity Program Grant—12 months; 2017

Hartmann Travel Grant—AAS' Division of Planetary Sciences Meeting, 2017

Bachelors to Graduate Program Scholar—2015-2019, (McNair Substitute)

Chancellor's Achievement Scholarship—2014-2018 (capped at 4 years)

Presentations/Proposals/Publications

2023	USC WiSE STEM Bytes Seminar , “The Habitability of Saturn’s Moon Titan for Acetylenotrophs” Yanez, M.D. June 26, 2023. NAI STEM Career Panel, Panelist for Middle School Students at FoShay Learning Center, June 30, 2023 DPS Virtual Classroom Visits, Q&A Panelist for Middle School Students, 3 San Antonio Schools, September 2023
2022	AGU Astrobiology Science Conference “Microbial Acetylenotrophy for Future Astrobiology Studies of Ocean Worlds” Yanez, M.D. et al., poster , id.111-01 54 Division of Planetary Sciences (DPS) Meeting, “Summary of the 2022 Young Researchers Program” Yanez, M.D. & Pittman, J.E., poster , id.208
2021	“Evaluation of short-term temporal evolution of Pluto's surface composition from 2014-2017 with APO/TripleSpec” Holler, B.J., Yanez, M.D. , et al. Icarus. 10.1016/j.icarus.2021.114729 USC Earth Sciences Paleobiology & Ecology Seminar, “Astrobiology on Titan”, seminar USC Wellbeing 3.0 Seminar “Ensuring Psychological Safety in Turbulent Times”, Panelist , May 06, 2021 Southern California Geobiology Symposium “Acetylenotroph Habitability on Titan” poster , May 2021 53 DPS Meeting—“Energy Yields for Microbial Acetylenotrophy on Titan” poster id.413.01 & Live Q&A id.106.06
2019	Honors Thesis--Defended in Feb 2019; Completed Dec 2018 awarded honors
2018	Lunar & Planetary Science Conference— “Analysis of Potential Radical Chemistry on Kuiper Belt Objects,” poster JPL Division 32 ICE (ICY Worlds Collaboration and Exchange) Seminar, “Seasons on Pluto: Short-term temporal evolution of Pluto’s surface composition,” invited seminar presentation 50 DPS Meeting--"Variations in Surface/Subsurface Processes on Europa” oral presentation id.400.05
2017	49 DPS Meeting--"Analysis of Potential Radical Chemistry on Kuiper Belt Objects.” 2017. poster id.216.16 Conference for Undergraduate Women in Physics—“Search for Short-term Temporal Evolution of Pluto’s Surface,” poster
2016	Astrobiology Graduate Conference—“The Yang: Short-Term Temporal Evolution of Pluto’s Surface,” oral presentation 48 DPS Meeting--"Search for Short-term Temporal Evolution of Pluto’s Surface.” poster , id.224.15

Teaching Experience

STEM Education Fellow , Joint Education Project, USC Dr. DJ Kast; Director and curriculum creator for the WonderKids afterschool program focusing on 6 units of STEM fields each semester	Aug '22 – May '23
Teaching Assistant , Dept. of Earth Sciences, USC Dr. Frank Corsetti, History of Life on Earth , Eval: 3.9/4, 3.7/4	Spring '20, '21

Teaching Assistant , Dept. of Earth Sciences, USC Dr. James Dolan, Earthquakes , Eval: 3.7/4	Fall '20
Teaching Assistant , Dept. of Earth Sciences, USC Dr. Sarah Feakins, Oceanography , Eval: 3.9/4	Fall '19
Teacher , SongAm Space Center, Seoul, Korea Summer English Space Camp, Dr. Morgan Cable Designed lesson plans pertaining to space for students between 8-15 years. old; Curated and presented a "Science Magic Show"	July '19
Learning Assistant , APS Dept., CU Boulder Dr. David Brain, Accel. Intro Astronomy I Assisted in lecture and ran weekly lab sessions alongside a graduate student Held office hours and exam review session; Ran five night labs at the observatory	Fall '17

Service

Graduate	
NASA Astrobiology Mission Ideation Factory Participant	<u>Aug. 2023</u>
Young Researchers Program—Mentor Liaison	<u>2022—Present</u>
Skype A Scientist: 10+ virtual classroom visits nationwide	<u>Jan 2022—Present</u>
Webmaster—AAS DPS Site Management (dps.aas.org)	<u>Oct 2021-Present</u>
Member—AAS DPS Virtual Organizing Committee	<u>Jan-Oct 2022</u>
New Frontiers <i>Dragonfly</i> Science Team Associate (unfunded)	<u>Nov 2020-Present</u>
AAS Division of Planetary Sciences Student Representative	<u>Jul 2020-Present</u>
Leader—Department Culture & Climate Group, USC Earth Sciences	<u>Jul 2020-Present</u>
High School Astrobiology Student Visits: West High School	<u>Fall 2019, 2021</u>
Member—DPS Professional Development Committee	<u>May 2018—Jan 2023</u>
Southern California Geobiology Symposium Planning Committee	<u>Jan – Apr 2021</u>
Undergraduate	
Founder and President of URSA—CU APS Dept	<u>Fall 2017--May 2019</u>
Group Leader and Volunteer—CU STARS	<u>Sep 2016--May 2018</u>
Telescope Volunteer/Trainer—Sommers-Bausch Observatory	<u>Oct 2016--May 2019</u>
Student Academic Success Center Panelist & Peer Mentor	<u>Fall 2017, 2018</u>
Congressional Visit Day—American Astronomical Society	<u>March 2017</u>
Undergraduate Representative—Course Fees Committee	<u>FY2017, FY2018</u>

Miscellaneous

- Web Design and Editing (HTML and several proprietary softwares)
- Experience with Python, SolidWorks, and JMARS
- Extensive experience in R especially pipelines and packages related to sequencing
- Basic in IDL, MATLAB, & Mathematica
- Proficient in Microsoft Office
- Fluent Spanish speaker/reader/writer
- Comfortable using Linux/Mac OS/Windows
- Comfortable with computer hardware (have built my own computer)