

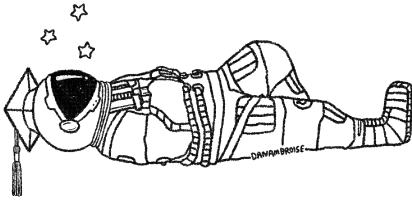
# Joalda Morancy

(They/Them/Theirs)

· www.joalda.space · joalda@uchicago.edu ·

## EDUCATION

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### The University of Chicago

- *Bachelor of Arts in Astronomy and Astrophysics*
- Expected, July 2022
- **Honors:** Odyssey Scholar (2018), UChicago MRSEC STEM Research Exploration Fellow (2019), Metcalf Fellowship Grant (2020)

## PROFESSIONAL EXPERIENCE

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### STEMulation Escape Room, *Writer*

January 2021 – present

- Promoting equitable anti-racist beliefs & practices by creating STEMulating educational experiences and resources.
- Narrative writer for SpaceBox, a STEM escape room box trilogy set in an Afrofuturistic science fiction universe.

### Kavli Institute for Cosmological Physics, *Research Assistant*

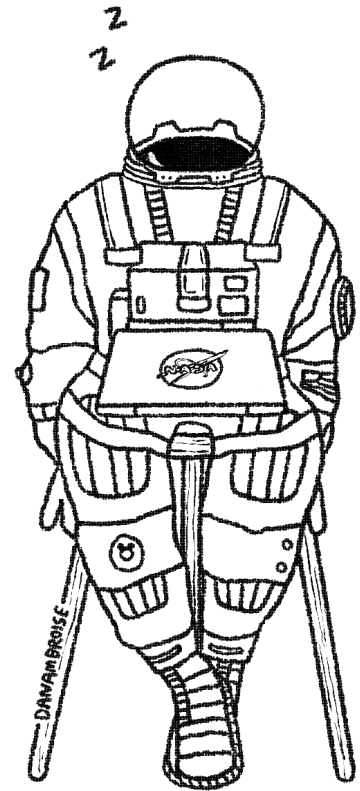
January 2019 – present

- Built a plane tracker in Python for the BEACON experiment which aims to detect high-energy particles.
- Correlated plane and BEACON data to find potential plane events and predict upcoming ones.
- Analyzed balloon and IceCube data for Antarctica phased array experiment.
- Developing next-gen antenna design ideas to be used for the Radio Neutrino Observatory in Greenland

### Blue Origin, *Aerospace Systems Engineering Intern*

January 2022 – April 2022

- Drafted an Assembly, Integration, and Test Plan detailing the manufacturing build flow, hardware development, procurement, and testing to be completed for the water recovery and management system
- Created interface diagrams presenting station-wide and external water system interfaces and hardware process flows
- Built a working knowledge of space station ECLS and water management systems
- Contributed to water system architecture development for Space Destinations habitat ECLS systems
- Developed a schematic diagram for a near-term prototype flight water system
- Provided hardware solutions for habitat passive humidity control
- Familiarized the team with available testing infrastructure across Blue Origin facilities
- Assisted with membrane water filtration testing within the Advanced Technology Human Spaceflight group



### NASA Jet Propulsion Laboratory, *Science Systems Engineering Intern*

July 2021 – December 2021

- Performed systems engineering duties for the Surface Biology and Geology component of the new NASA Earth System Observatory.
- Completed JIRA project management for project systems engineering and research and applications.
- Drafted science and spacecraft requirements for VSWIR, TIR, and Constellation Pathfinder instruments.

**University of Chicago, ASTR 21400 Learning Assistant**

September 2021 – December 2021

- Assisted the Creative Machines and Innovative Instrumentation course focusing on the systematic processes of engineering and fundamentals of design and construction.
- Supported 3D printing sessions, electronic builds, and machining.

**NASA Jet Propulsion Laboratory, Carbon Cycle and Ecosystem Intern**

July 2020 – July 2021

- Analyzed climate disasters through the use of ECOSTRESS remote sensing data
- Utilized GIS software to develop various maps on drought and wildfires for Earth scientists worldwide

**Princeton Satellite Systems, Spacecraft Engineering Intern**

June 2019 – August 2019

- Worked on the Direct Fusion Drive rocket engine that utilizes nuclear fusion propulsion developed by PSS in collaboration with the Princeton Plasma Physics Laboratory.
- Wrote Python code calculating the magnetic field and plotting the field lines of the engine.
- Simulated a CubeSat mission with the PSS Spacecraft Control toolbox.

**MIT Online Science, Technology, and Engineering Community (MOSTEC), Student**

June 2017 – January 2018

- Used the tool DS9 to analyze various astronomical objects.
- Created a presentation on gravitational wave research.
- Wrote an article on advanced rocket propulsion, specifically nuclear propulsion and its power and possibilities.

**Pioneer Academic Research Program, Research Scholar**

June 2017 – September 2017

- Completed an astrophysics paper focusing on gravitational waves.
- Investigated the LVT151012 event that had a low confidence rate.
- Reproduced and coded a spectrogram of the chirp based on the findings of another paper.

**LEADERSHIP & ACTIVITY EXPERIENCE**

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**REACH: A Space Podcast for Kids, Special Contributor**

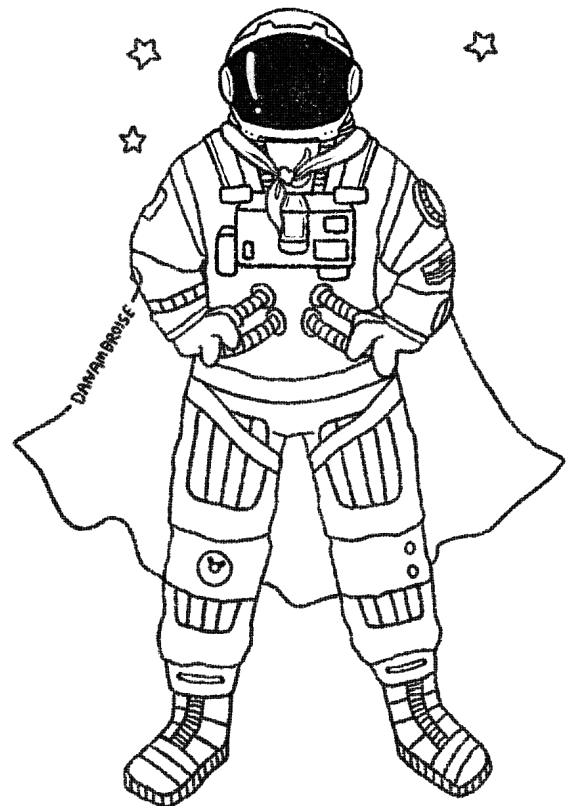
January 2021 – present

- Creating specialized content for the podcast such as answering questions in REACHing out episodes and generally contributing to REACH content

**The Triple Helix Inc., Science in Society Review Writer**

December 2019 – present

- Writing articles for the SISR publication, which explores the implications of the social, physical, and natural sciences on modern society.



- Wrote an article on the history of NASA's funding, focusing specifically on the history of the spacesuit.
- Wrote an article on Mars human settlements and our evergrowing climate change issue.

**Students for the Exploration and Development of Space at UChicago (SEDS-UChicago), Chapter Founder, President**

November 2018 – present

- Founded the SEDS-UChicago chapter to empower young people to participate and make an impact in space exploration through outreach and engineering projects.
- Arranged an astronaut speaking event with an attendance of 200+ people.
- Leading projects on model rocketry, high powered rocketry, and high altitude balloons.
- Working with other science student organizations such as the Engineering Society to start more technical projects.

**NASA JPL Solar System Ambassadors Program, Ambassador**

December 2018 – present

- Communicating to the general public about NASA's upcoming missions, acting as an interface between the NASA community and the populace at large.
- Providing financial support through fundraising for space and science programs in south side Chicago elementary schools.

**Students for the Exploration and Development of Space USA (SEDS-USA), Director of Operations**

November 2019 – August 2021

- Managed the operations staff of SEDS-USA, including the Webmaster, Digital Media Specialists, Alumni Coordinators, and Wiki Manager.
- Acted as a point of contact between the operations staff and the Executive Director

**UChicago Housing and Residence Life, Resident Assistant**

September 2020 – June 2021

- Fostered a supportive and welcoming environment for residents living inside the dormitory
- Supported Resident Heads by acting as a beacon of information regarding the UChicago and general Chicago community

**Mars Academy USA, Analog Astronaut, Remote Mission Support Team**

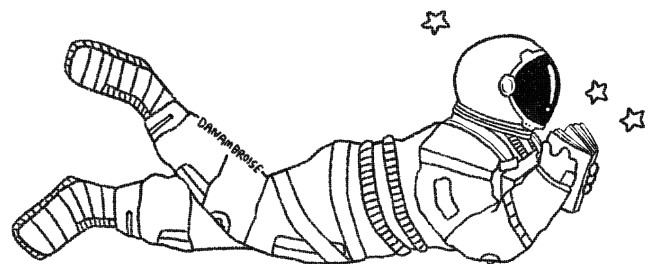
September 2019 – December 2019

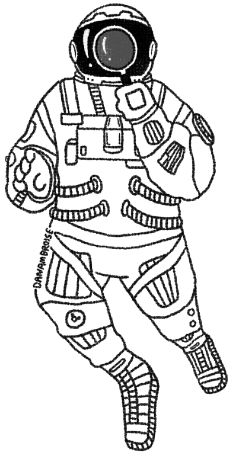
- Completed scientific projects and collaborated with crewmates during MAU Crew 1127, a simulated 4-day Mars analog mission in an isolated confined environment (ICE).
- Supported the MAU Nepal mission by acting as part of the RMST with other scientists during assigned hours of the day.

**PUBLICATIONS, & PRESENTATIONS**

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- J. Morancy, "Development of a crossed-dipole antenna for future in-ice radio neutrino experiments" American Physical Society April Meeting (2022)
- J. Morancy, et. al., "A Review of Climate Events as seen by ECOSTRESS" American Geophysical Union Fall Meeting (2020)
- S. Wissel, et. al., "Prospects for High-Elevation Radio Detection of >100 PeV Tau Neutrinos" JCAP11(2020)065





## SKILLS

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- **Coding:** Python, MATLAB, C++, LaTeX, Raspberry Pi
- **CAD & Design:** Solidworks, Fusion 360, Photoshop, Machine Shop
- **Microsoft Office Specialist:** Word, Powerpoint, Excel, Outlook, Visio
- **Remote Sensing:** QGIS, ArcGIS
- **Project Management:** Jira

## SELECTED TALKS & PANELS

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- **MRIGlobal**, “*You Are Welcome Here: Navigating the Gender Landscape in the Workplace*”, June 2021
- **New York University Center for the Humanities**, “*The Grand Experiment: A Discussion on the Intersection of Science & Poetry*”, June 2021
- **CU Boulder Bioastronautics**, “*Better Science Communication, Better Science*”,

Dec 2020

- **SEDS-USA**, *SpaceVision 2020 Conference*, Nov 2020
- **Explore Mars**, *Humans to Mars 2020 Summit*, Aug 2020
- **H.R. MacMillan Space Centre**, *Virtual Cosmic Nights: Mars*, July 2020

## MEDIA FEATURES

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- **NASA Jet Propulsion Laboratory**, *The JPL Interns Protecting Earth's Future*, March 2022
- **NASA Jet Propulsion Laboratory**, *ECOSTRESS Intern Feature*, June 2021
- **NASA Jet Propulsion Laboratory**, “*ECOSTRESS Images California Wildfires From Space*”, Oct 2020
- **NASA**, “*ECOSTRESS Takes Surface Temperature Around California Fires*”, Sep 2020
- **NASA**, “*ECOSTRESS Sees Fire-Induced Tornado From Space*”, Aug 2020
- **The Atlantic**, “*The False Hope of an American Rocket Launch*”, June 2020