

# Welcome to the 21st Sagan Summer Workshop!

Caltech



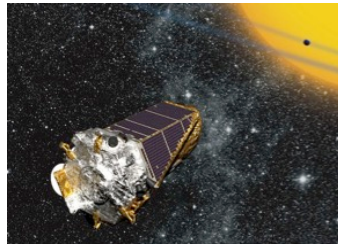
# NExSci Supports NASA's Exoplanet Program

- NExSci is the science center for NASA's Exoplanet Exploration Program
- One of 3 NASA Astrophysics Centers under IPAC umbrella
- Broad and deep support of exoplanet research community through archives, observing time, workshops, tools and services to enable data sharing and analysis
- Current staff of 21 scientists, programmers, engineers, and admin

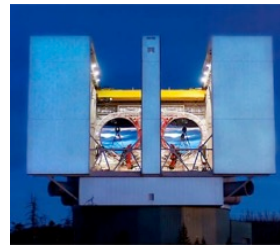
Sagan Program & Community Support



Exoplanet Archive & ExoFOP



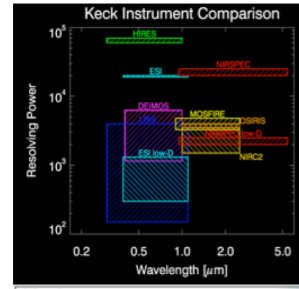
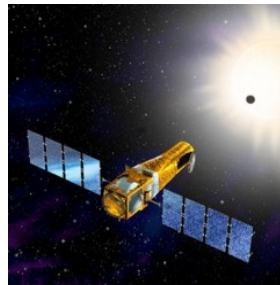
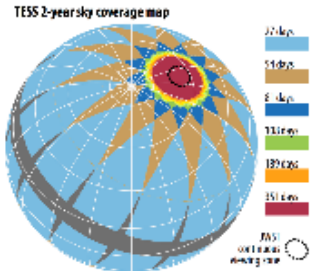
Long Term Archives



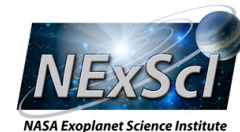
Keck Operations and Archive



EPRV (NEID/NN-Explore)



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# 20 Years of Exoplanet Science

## JPL/Interferometry Science Center

1999: Interferometry Summer School

•2000: Astrophysics with Optical Interferometry  
•2001: Interferometry Techniques

•2002: Interferometry Theory and Techniques

## Michelson Science Center

•2003: Interferometry Overview  
•2004: Frontiers of High Contrast Imaging in Astrophysics  
Astronomical Interferometry in the Optical and Near-Infrared

•2005: Discovering New Worlds Through Astrometry

•2006: Frontiers of Interferometry: Stars, Disks, and Terrestrial Planets

•2007: Planetary Transits: Detection to Characterization

## Sagan Sumer Workshops

• 2009: Exoplanetary Atmospheres

•2010: Stars as Homes for Habitable Planetary Systems

•2011: Exploring Exoplanets with Microlensing

•2012: Working with Exoplanet Light Curves

•2014: Imaging Planets & Disks

•2015: Exoplanetary System Demographics: Theory and Observations

•2016: Is There a Planet in My Data? Statistical Approaches to Finding and Characterizing Planets

•2017: Microlensing in the Era of WFIRST

•2018: Did I Really Just Find an Exoplanet?

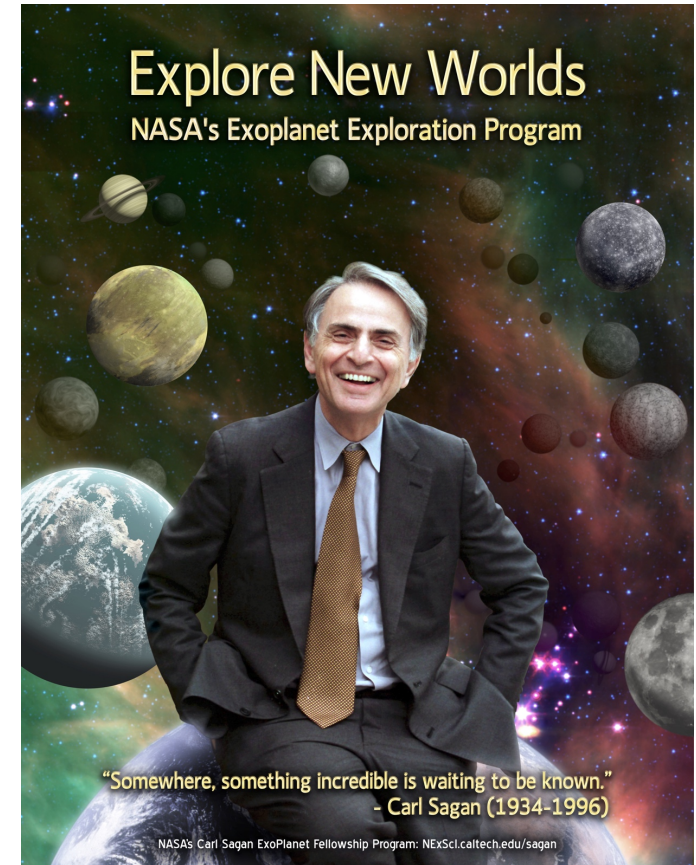
•2019: Astrobiology for Astronomers

•2020: Extreme Precision Radial Velocity

•2021: Circumstellar Disks and Young Planets

# 2021 Sagan Summer Workshop

- The Sagan Program is part of NASA's Exoplanet Exploration Program (ExEP), one of three science themed programs at NASA (including Cosmic Origins & Physics of the Cosmos)
- The primary goal of missions within ExEP is to discover and characterize planetary systems and Earth-like planets around nearby stars
- The SSW continues the tradition of the past 20 Michelson/Sagan Summer Workshops
- This year we have over 1,300 registrants from institutions in almost 60 countries!  
Wow!





# The Organizing Committees

## SOC:

- Lisa Prato, Chair (Lowell Observatory)
- Chas Beichman (Caltech/IPAC-NExSci)
- Beth Biller (University of Edinburgh)
- Christine Chen (STScI)
- Virginie Faramaz (JPL/NExSci)
- Elise Furlan (Caltech/IPAC-NExSci)
- Dawn Gelino (Caltech/IPAC-NExSci)
- Mark Marley (LPL, University of Arizona)
- Tom Megeath (University of Toledo))
- Christoph Mordasini (University of Bern)
- Peter Plavchan (George Mason University)
- Karl Stapelfeldt (NASA JPL)

**THANK  
YOU!**

## ➤ NExSci LOC:

- Ellen O'Leary
- Megan Crane
- Virginie Faramaz
- Elise Furlan
- Dawn Gelino
- Melanie Swain

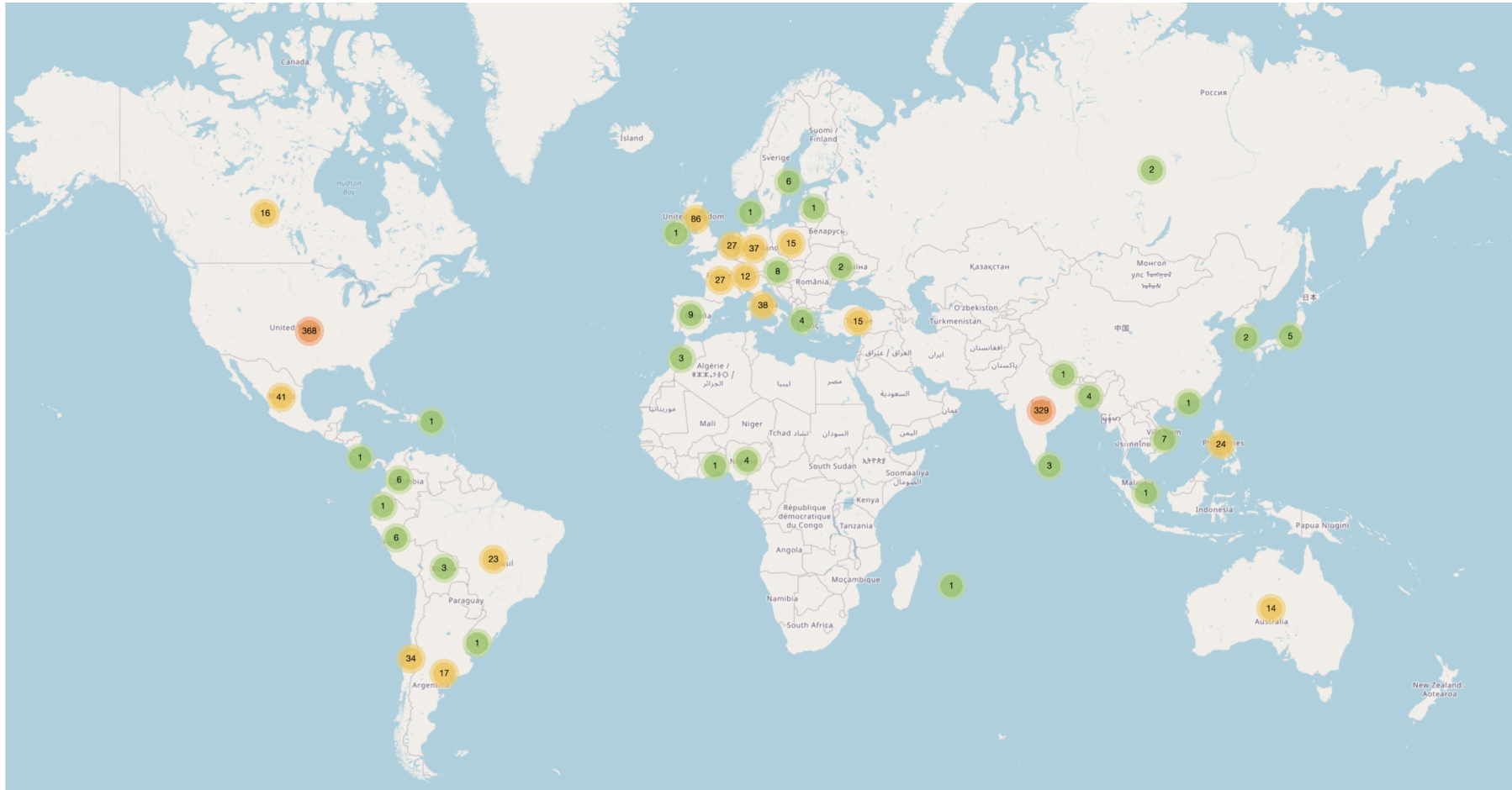
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# Attendees

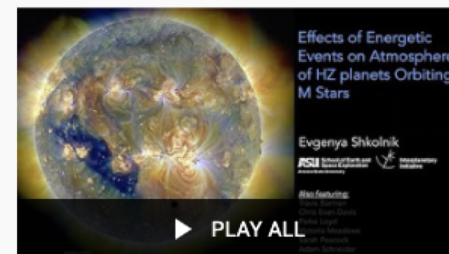
We have over 1,300 registrants from around the globe!

NASA Exoplanet Science Institute



# Presentations - Thank You Speakers!

- Videos of the pre-recorded talks are on the Sagan Exoplanet Summer Workshop YouTube channel
- Live presentations will also be posted on the YouTube channel during the week, though there will be a delay
- All live talks include a Q&A period at the end
- Panel discussions: Panel members will give a brief summary of their talks or an overview of a specific topic and then answer questions from the live audience.



## 2021 Sagan Summer Workshop: Circumstellar Disks and Young Planets

13 videos • 58 views • Updated today

Public ▾



This channel has presentations from the 2021 Sagan Summer Workshop on Circumstellar Disks and Young Planets. The workshop will be held as an online meeting on July 19-23, 2021. Some presentations were pre-recorded for viewing before the workshop with shorter versions given during the live workshop. See the website (<https://nexsci.caltech.edu/workshop/2021/>) for the agenda and complete details of the hands on sessions.

# SSW Code of Conduct

- All SSW participants are expected to follow the Code of Conduct during the meeting including the Zoom Q&A, chat, Slack and Gather conversations
- You will be removed from the meeting, Slack, and Gather if you violate this code

The organizers are committed to making this meeting productive and enjoyable for everyone, regardless of gender, sexual orientation, disability, physical appearance, body size, race, nationality or religion. We will not tolerate harassment of participants in any form.

Please follow these guidelines:

- **Behave professionally.** Harassment and sexist, racist, or exclusionary comments or jokes are not appropriate. Harassment includes sustained disruption of talks or other events, inappropriate physical contact, sexual attention or innuendo, deliberate intimidation, stalking, and photography or recording of an individual without consent. It also includes offensive comments related to gender, sexual orientation, disability, physical appearance, body size, race or religion.
- All communication should be appropriate for a professional audience including people of many different backgrounds. Sexual language and imagery is not appropriate.
- Be kind to others. Do not insult or put down other attendees. Critique ideas, not people.
- If participants wish to share photos or contents of talks/slides of any speaker or attendee on social media, we ask that they first get permission.

Participants asked to stop any inappropriate behavior are expected to comply immediately. Attendees violating these rules will be asked to leave the event at the sole discretion of the organizers.

This code of conduct is based on the "London Code of Conduct", as originally designed for the conference "Accurate Astrophysics. Correct Cosmology", held in London in July 2015.



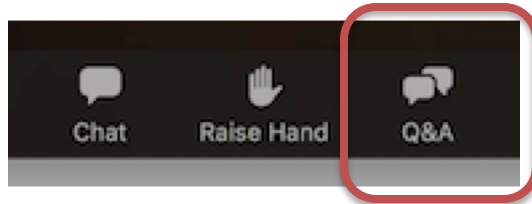
# SSW Code of Conduct

- If you experience harassment in any form, or if you see someone else experiencing harassment, please report the incident in any of the following ways:
  - Email [nexsci@ipac.caltech.edu](mailto:nexsci@ipac.caltech.edu) (only seen by Dawn Gelino and Ellen O’Leary)
  - Send a direct message in Slack to any of the following Workshop Organizers:
    - Elise Furlan
    - Dawn Gelino
    - Virginie Faramaz
    - Ellen O’Leary
  - Find one of us at the Helpdesk during the dedicated poster sessions in Gather
  - These instructions are also located on Slack and in the top right corner of the main Gather room.

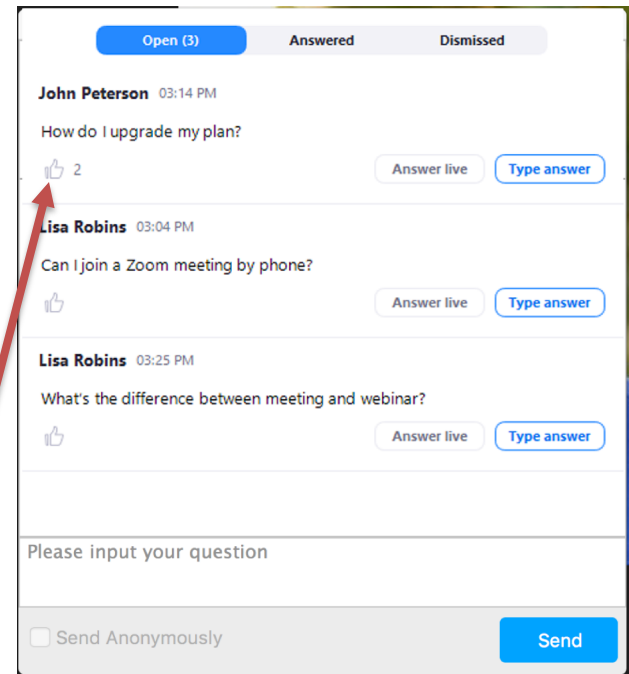
# Attendee Status & Questions

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- Unless you are speaking or chairing a session, you will be a Zoom Webinar Attendee
- This means that your video and microphone are disabled, and the speakers can not see or hear you.



- All questions should be posted using the Zoom Q&A feature at the bottom of your screen.
- We encourage everyone to ask questions
  - You can ask questions anonymously
  - Please upvote a question that you would also like to hear an answer for



# Interactive Workshop Features

- **Twitter: #sagan2021**
- “Lunch” with the Speakers (Wednesday, Thursday, Friday)
  - Informal chat with a speaker and up to 15 attendees
  - Each speaker will be in their own Zoom meeting with the attendees who have signed up
    - We still have a few spots open, so sign up via Signup Genius link in your email (and on the website)
    - Note that there are 5 parallel meetings in each time slot
- Posters
  - See submitted posters on SSW website and in the poster rooms during the poster sessions in Gather. There is also a poster channel in Slack.
- Slack channel
  - Invite in the emails we have sent over the past month
  - We have set up several channels:
    - #hello\_my\_name\_is
    - #resources
    - #posters
    - #hands-on-session (2 channels)
    - #talks
    - #python-help

# Hands-On Sessions – Thank You

- The preparation in getting ready for the hands-on sessions would not have been possible without the dedicated help from:
  - Natasha Batalha (NASA Ames)
  - Mark Marley (LPL, Univ. of Arizona)
  - Virginie Faramaz (JPL/NExSci)
  - Elise Furlan (NExSci)and the 17 hands-on session helpers:

Geoff Bryden (JPL)  
Daniel Carrera (Iowa State)  
Jiayin Dong (Penn State)  
Louise Dyregaard Nielsen (Oxford)  
Jennifer Greco (Uppsala U)  
Lina Kimmig (Heidelberg U)  
Kellen Lawson (U Oklahoma)  
Alex Madurowicz (Stanford)  
Laura Mayorga (JHU/APL)

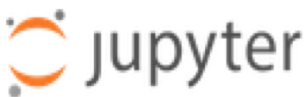
Sagnick Mukherjee (UCSC)  
Evert Nasedkin (Max Planck)  
Isabel Rebollido (STScI)  
Caoimhe Rooney (Ames)  
Karl Stapelfeldt (JPL)  
Shih-Yun Tang (NAU)  
Marion Villenave (JPL)  
Zhoujian Zhang (U Hawaii)



# Hands-On Sessions

- **These will take place in a Zoom meeting, not in the webinar**
  - We will post the Zoom meeting link in Slack and send it out via email before the sessions start
- The Zoom meetings will use breakout rooms so participants can work in smaller groups and interact with each other more directly.
- One helper is available in each breakout room
- Participants can also use the Hands-On Sessions Lab room in Gather and the hands-on channels in Slack during off hours for discussion.
- Note: There was no pre-registration to participate in the hands-on sessions – we asked you to fill out a Google form last month only to gauge interest and prepare for these sessions.

# Hands-On Sessions



Welcome To Colaboratory

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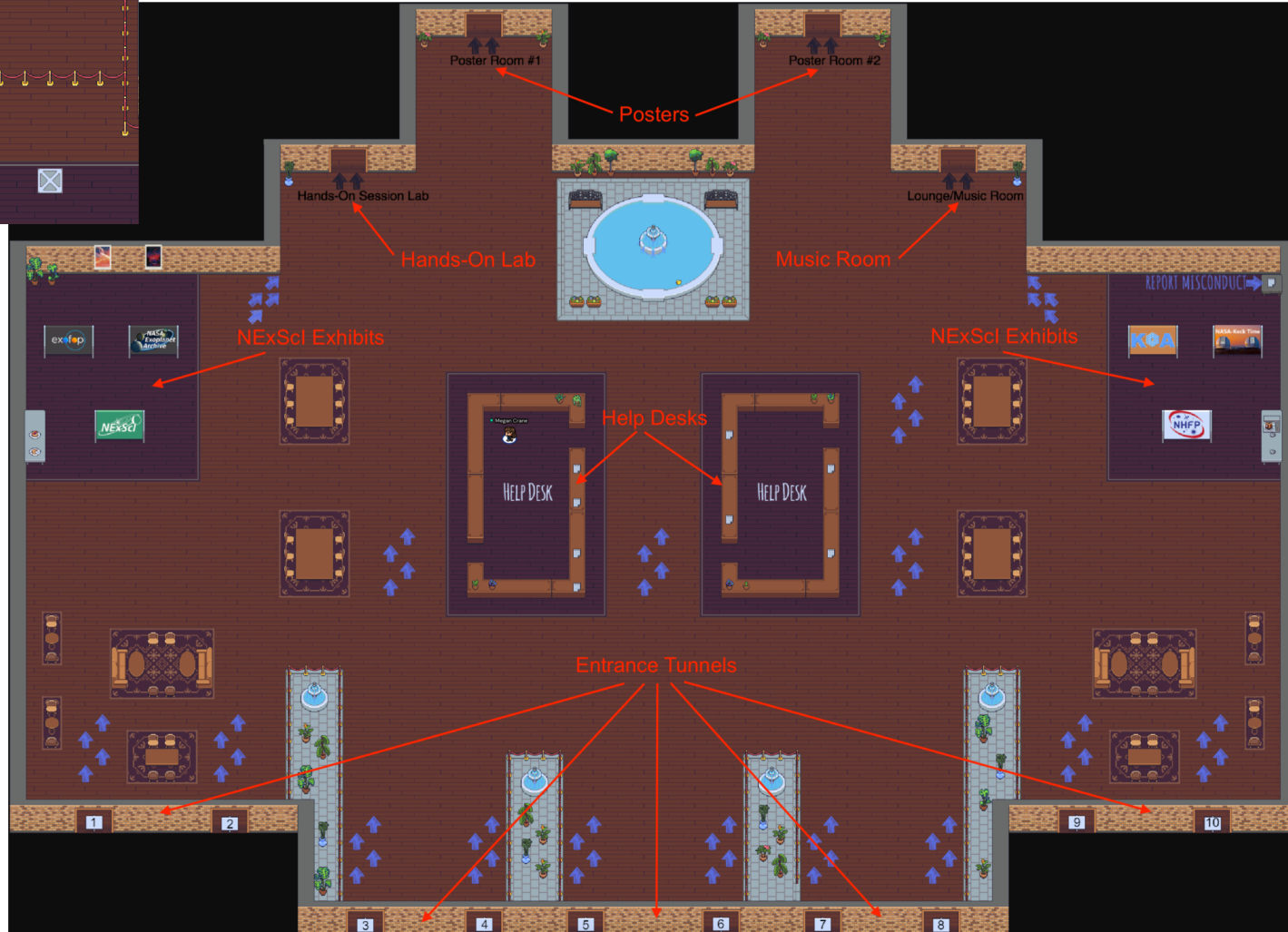
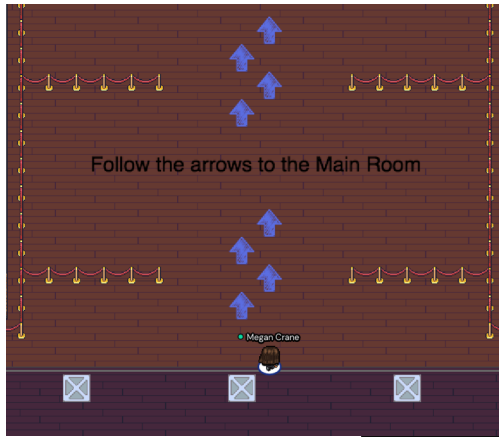
- Everyone, from beginner to expert, is welcome to participate!
- You can participate in both the “Disk Models” and ”Young Planets Spectroscopy” hands-on session, or just one of them.
- The activities will use either Jupyter notebooks (which requires a Python installation) or Google Colaboratory (Colab) notebooks (which run on Google Drive on a virtual machine).
- **If you have not done so already, please install Python or run the Google Colab set-up notebooks (the instructions are on our website), since it can take more than ½ hour.**
- **Look on the SSW website for more information and software instructions.**

# Hands-On Sessions: Disk Models and Young Planets Spectroscopy

- **Monday:** Introduction to the “Disk Models” hands-on session.
- **Tuesday:** Hands-on activities for the “Disk Models” hands-on session: analyze model spectral energy distributions and images of up to four different disks
- **Wednesday and Thursday:** “Young Planets Spectroscopy” hands-on session. After an introduction, you will learn about how spectra of planet atmospheres are modeled and analyze some model profiles and spectra. You should attend both days, since Thursday will be a continuation of the activities done on Wednesday.
- **Friday:** Short recap of the “Young Planets Spectroscopy” hands-on session with the main discussion points/findings from the hands-on activities.

# Gather Virtual Space

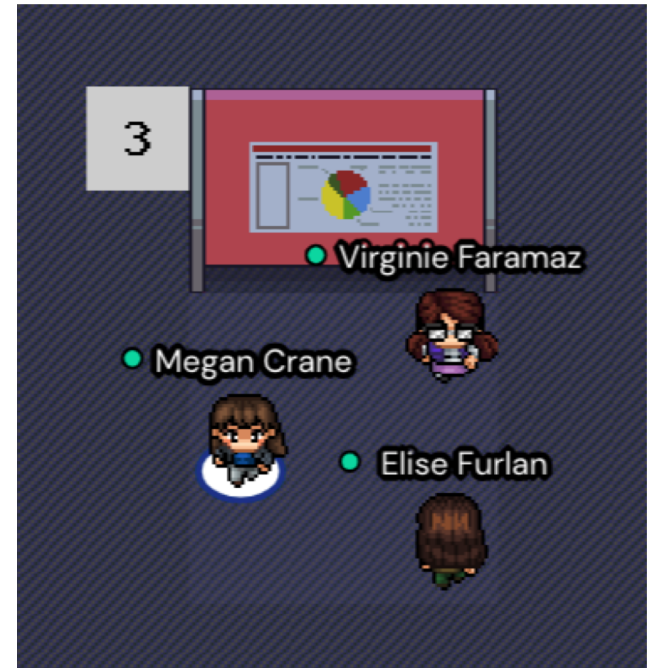
- Please note that Chrome and Firefox are the recommended browsers. Safari and mobile devices are not supported.





# Poster Sessions on Gather

- Gather will be open the entire week
- Dedicated poster sessions will take place here
- Each poster has its own private space for discussion
- Hands-on session work can take place here as well
- Look for a few easter eggs in the space, especially if you want to visit places outside of the meeting venue



# Certificates and Pictures

## Certificate of Attendance

- *After the conclusion of the workshop, you can request a Certificate of Attendance via a form on our website*
- Certificates will be sent by the end of August

## Class Picture!

- If you would like to be part of our SSW21 “class picture,” please submit a headshot of yourself through our website off of the main workshop page.
- Pictures are due by August 20 and we’ll post the picture on the workshop website in September.

# Let's Get Started!

*Submit your headshot to be part of the  
2021 Workshop picture!*



*Enjoy the Workshop!*

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