

2026 Sagan Summer Workshop Wrap-Up

Caltech



2026 Sagan Summer Workshop

Exoplanets with Roman Surveys: Microlensing and Transits



Introduction to Roman

Introduction to Microlensing and Its Historical Perspective

Planet Populations, or Why We Need Roman

Introduction to Other Micro

Theory of Planet Formation and Planetary Systems

Introduction to the Galactic Bulge Time Domain Survey

Fundamentals of Microlensing

Higher-Order Effects in Microlensing

Microlensing Planet Host Star Characterization

Challenges in Roman Microlensing

Roman Microlensing Planet Yields

Dealing with Dust in the Galactic Plane

Fundamentals of Transiting Planets

Challenges with Roman Transits

Roman Transiting Planet Yields

Galactic Context

Introduction to Microlensing Occurrence Rate Methods

Introduction to Transit Occurrence Rate Methods

**Hands-On Session I:
Microlensing Fits of
Single and Binary Lenses**

**Hands-On Session II:
Placing Transit or
Microlensing Events in a
Galactic Context**

Completing the Galactic Census of Planets:
Combining Microlensing and Transit Demographics

Pipeline: From Pixels to Lightcurves (AKA the
Field Photometry and Astrometry)

Pipeline: From Lightcurves to Characterization (AKA the
of Different Microlensing Event Modeling Techniques)

Transit

Characterizing Transit Host Stars

Non-Exoplanet Science with the GBTDS (Astrophysics)

Non-Exoplanet Science with the GBTDS (Solar System)

Precursor Observations (Euclid, HST)

Individual Microlensing Event Follow-Up with Big Telescopes

Contemporaneous Microlensing and Other Time Domain Surveys

The Roman GPS and How It Can Be Used to
Expand on Microlensing and Transit Surveys

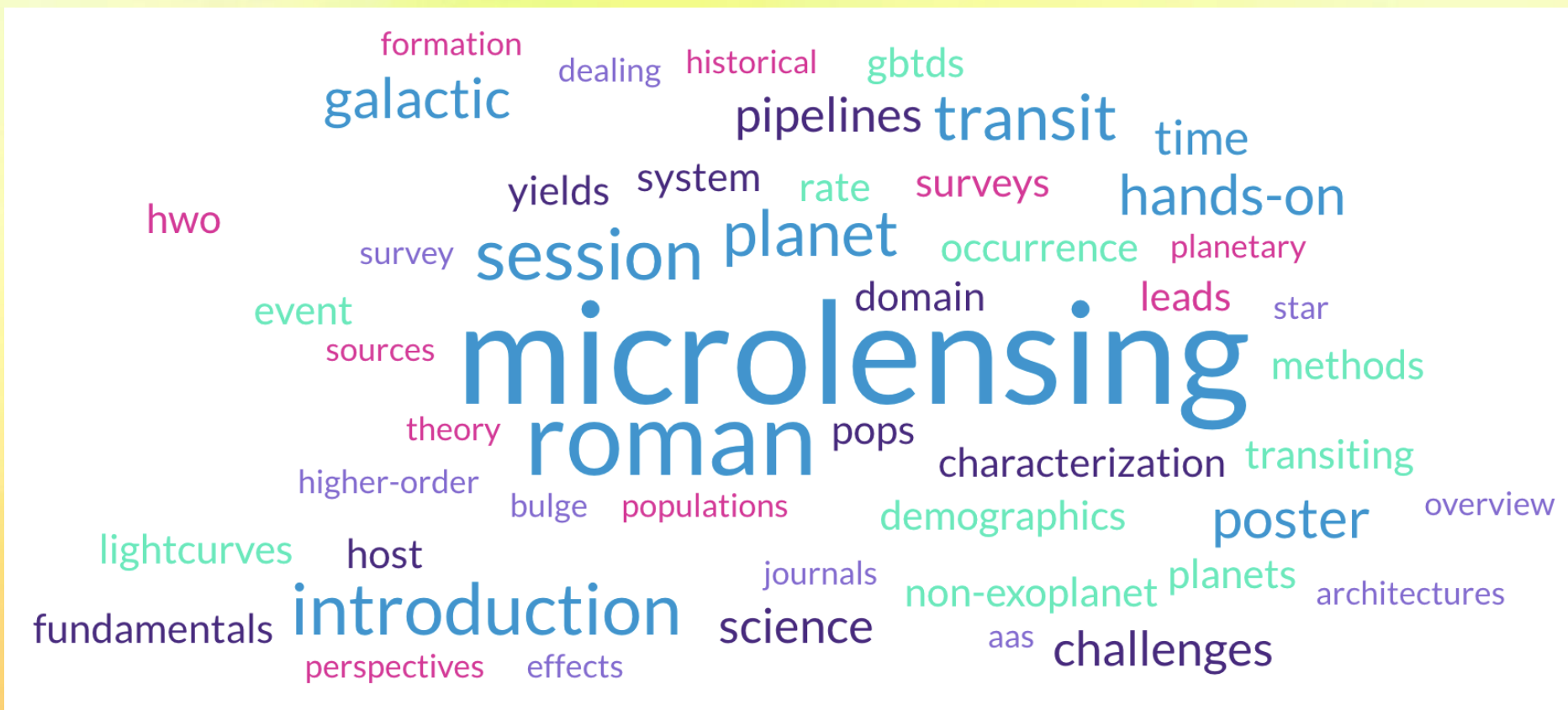
Panel: Exoplanet Demographics
Opportunities with Roman GO Time

How Roman Science Leads to HWO

How Roman Coronagraph Technology Leads to HWO

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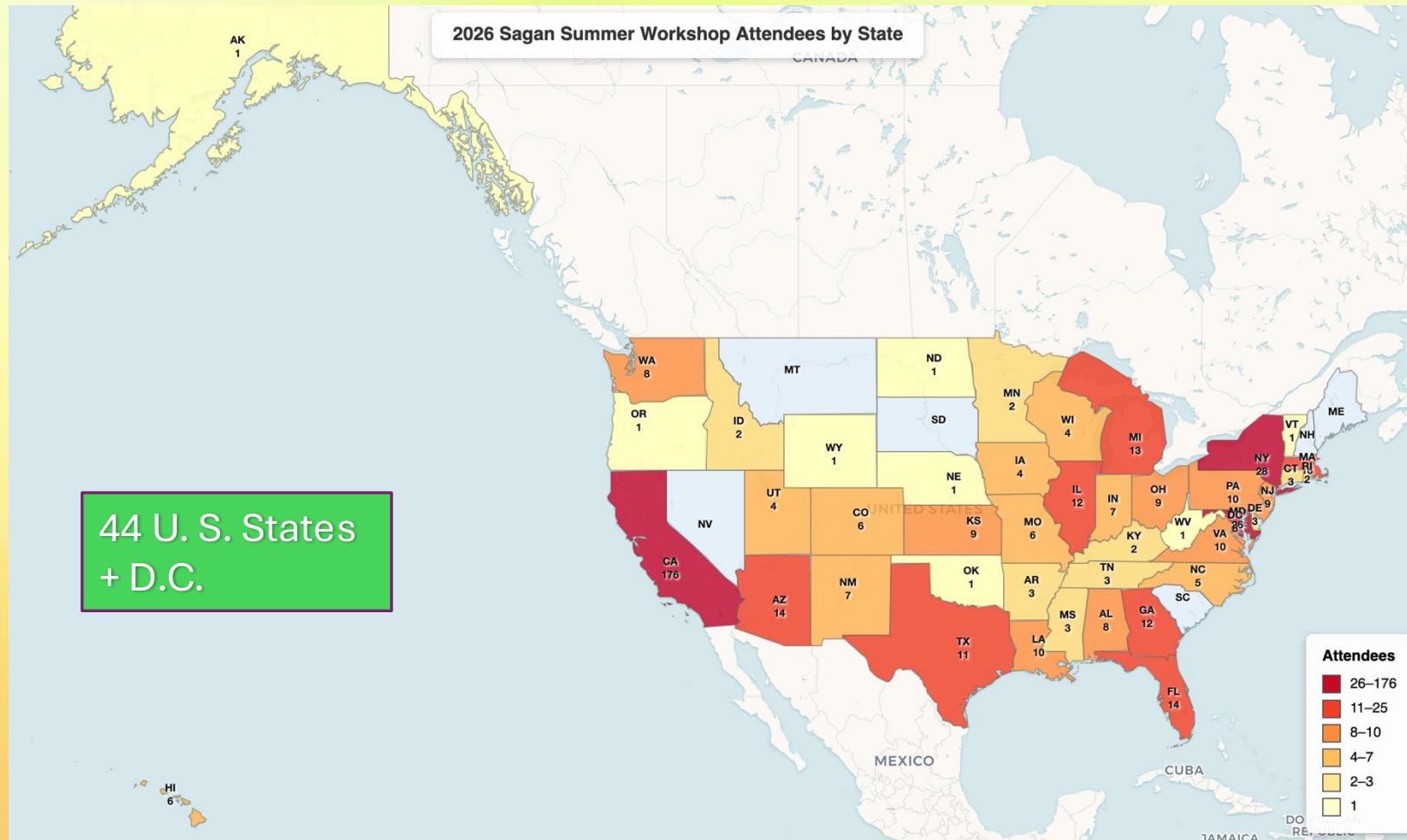


2828 registered participants (267 in person) ... largest number of registrants ever



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Many Thanks...

... to the **Science Organizing Committee (SOC)** for a great agenda and an amazing choice of speakers:

- ❖ Jessie Christiansen, Co-Chair (Caltech/IPAC-NExSci)
- ❖ Scott Gaudi, Co-Chair (Ohio State University)
- ❖ Chas Beichman (Caltech/IPAC-NExSci)
- ❖ Sam Grunblatt (University of Alabama)
- ❖ Dan Huber (University of Hawaii/IfA)
- ❖ Eamonn Kerins (University of Manchester)
- ❖ Michelle Kunitomo (University of British Columbia)
- ❖ Jessica Lu (UC Berkeley)
- ❖ Ruth Murray-Clay (UC Santa Cruz)
- ❖ Keivan Stassun (Vanderbilt University)
- ❖ Rachel Street (Las Cumbres Observatory)
- ❖ Robby Wilson (University of Maryland/NASA/GSFC)



... to Caltech President Dr. Ray Jayawardhana's Opening Remarks



"The imminent launch of the Nancy Grace Roman Telescope promises another tremendous leap forward, revealing thousands of worlds previously hidden from view and further transforming our understanding of the incredible range of planets and planetary systems across the Galaxy."

"We are living in an extraordinary era of discovery, and through your participation here, you are helping shape it."

... to those behind the scenes



NExSci Science Affairs Team

- Frank Aragon
- Tracy Chen
- Catherine Clark
- Megan Crane
- Elise Furlan
- Melanie Swain

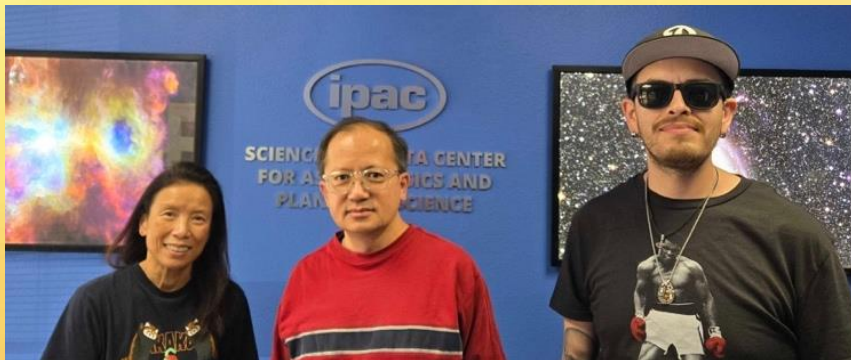


... to those behind the scenes



IPAC

- Sean Kindt
- Nancy Solis
- Frank Aragon
- Teresa Molano
- David Navarro
(not pictured)
- Wendy Burt
- Alex Hui
- Daniel Pina-Muro
- Charlie Elachi
(not pictured)



Caltech

- Laurel Auchampaugh (Baxter/HSS)
- Becca Rose (Academic Media Technologies)

... to our sponsor



... to our speakers and panelists

Thank you for

- Your excellent talks
- Answering questions in-person and on-line
- Participating in lunches with attendees

... to our session chairs

Thank you for

introducing our speakers and
keeping us on time



... to our hands-on session leaders and helpers

The preparation and technical support in getting ready for the hands-on sessions would not have been possible without the dedicated help from:

- ❖ Casey Lam (Carnegie Obs.), Arjun Murlidhar (OSU), Himanshu Verma (LSU), Katarzyna Kruszyńska (LCO)

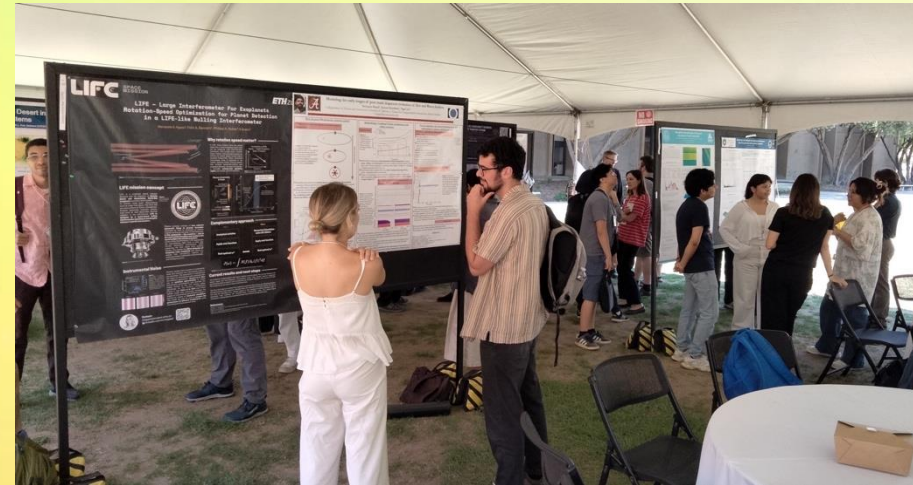


- ❖ Macy Huston (UC Berkeley),
Jessica Lu (UC Berkeley)

... to our in-person and remote attendees



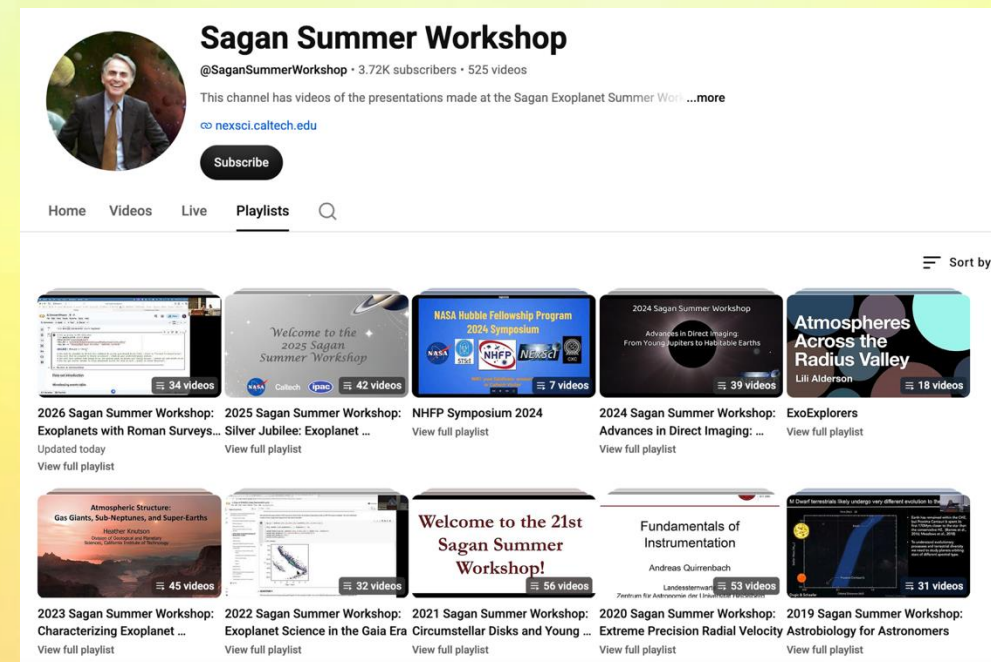
This would not be a success without your interactions and involvement in asking questions, participating in lunch with speakers, showcasing your work on posters, and working on the hands-on sessions



After the Workshop



- Please fill out the **feedback survey**:
<https://tinyurl.com/sagan2026>
- Request a **Letter of Attendance**
 - Deadline: August 16
 - Letters will be sent by mid-September
 - <https://cosmos.ipac.caltech.edu/ssw/certificate.php>
- Submit your **headshot** to be part of the Class Photo (mostly for our remote attendees)
 - Deadline: August 16
 - Pictures will be posted on the workshop website in September
 - https://cosmos.ipac.caltech.edu/ssw/enter_photo.php
- **Slack** will remain open, but messages older than 90 days will not be accessible
 - If you are still working on the hands-on sessions, please search in the relevant channels for answers to your questions. There are many answers in there!
- **Videos** of the presentations are posted both on the workshop agenda page and on our Sagan Summer Workshop YouTube channel – now includes 13 years of workshop videos!



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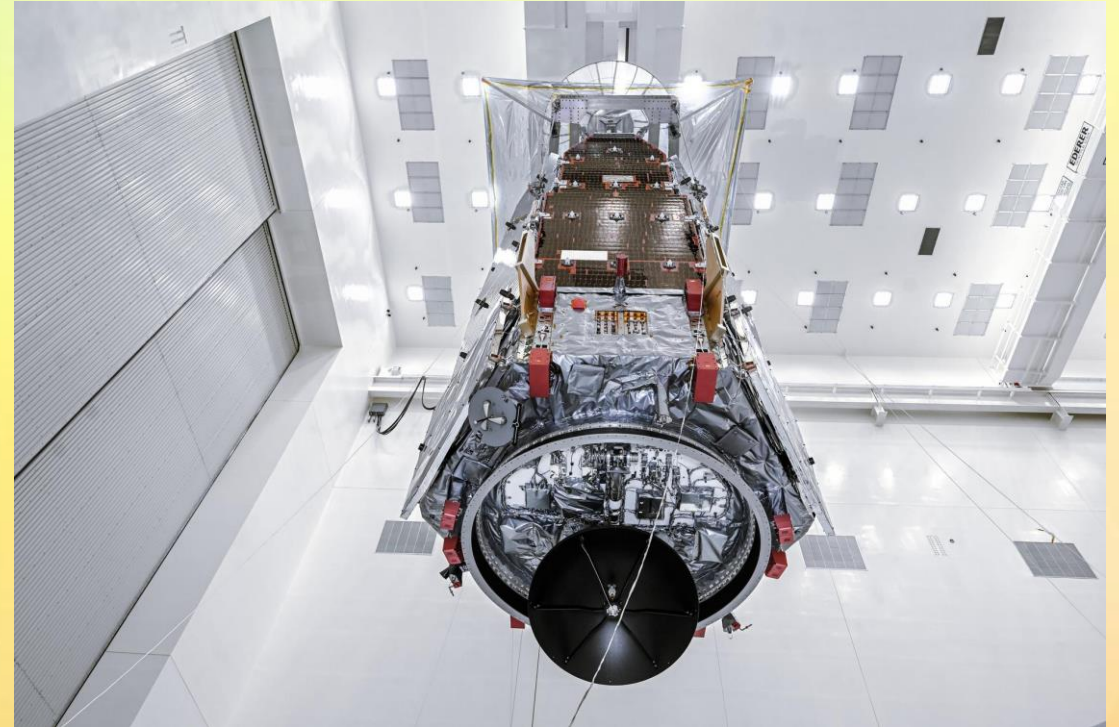


Go Roman!



NASA's Pegasus barge on Sunday, June 21, 2026.
Credit: NASA/Amber Jean Notvest

**Launch: August 30,
2026**



Roman at NASA's Kennedy Space Center in Florida
on Friday, June 26, 2026.
Credit: NASA/Sydney Rohde (Rocz)

2027 Sagan Summer Workshop

July 19-23, 2027

Exoplanet Masses: In the Era of Gaia and Extreme Precision Radial Velocities

- The need for exoplanet masses
- States of astrometry from Gaia and Extreme Precision Radial Velocity
- Opportunities and challenges for astrometry and radial velocity
- Combining astrometry and radial velocities

