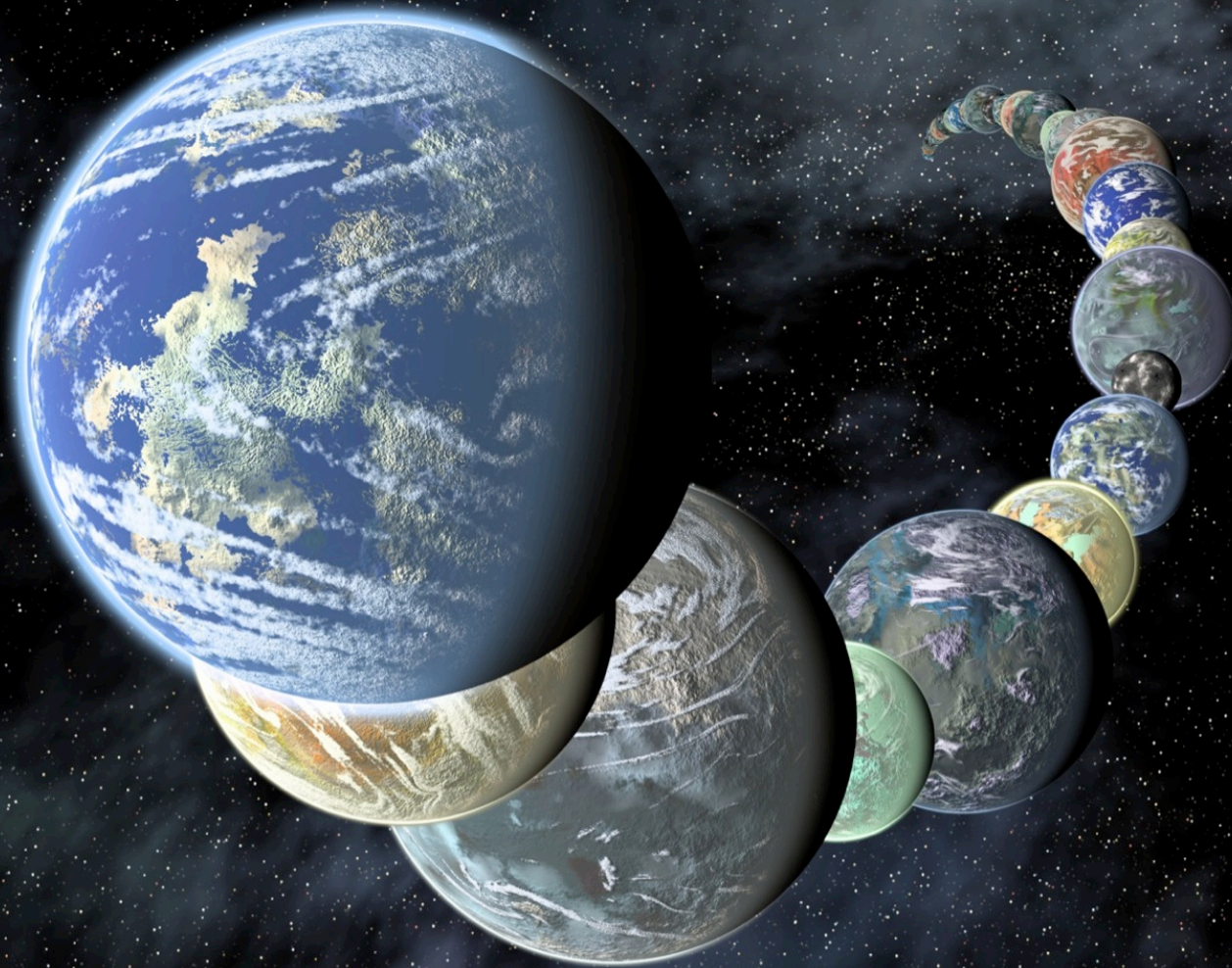# Updates from the NASA Exoplanet Science Institute


David R. Ciardi

NExScI Chief Scientist

On Behalf of the NExScI Team

ExoPAG-23 05 January 2021

2021 Sagan Exoplanet Summer Workshop

Circumstellar Disks and Young Planets

- Focus on young planets and the circumstellar disks from which they form during the first few million years of a star's lifetime

- Properties of transiting young planets detected by the Kepler/K2 and TESS missions

- Gaia identification of groups of young stars and determination of their ages

- Properties of planets and disks imaged directly with ground-based faculties (e.g., Gemini/GPI, SPHERE/VLTI, Keck and ALMA) and space-based telescopes (Spitzer, HST, and JWST)

- Environment influence of an active young star on the evolution of the primordial atmosphere of a young planet

- Theoretical bases for the formation and evolution of a planetary systems, including both the disk and planets
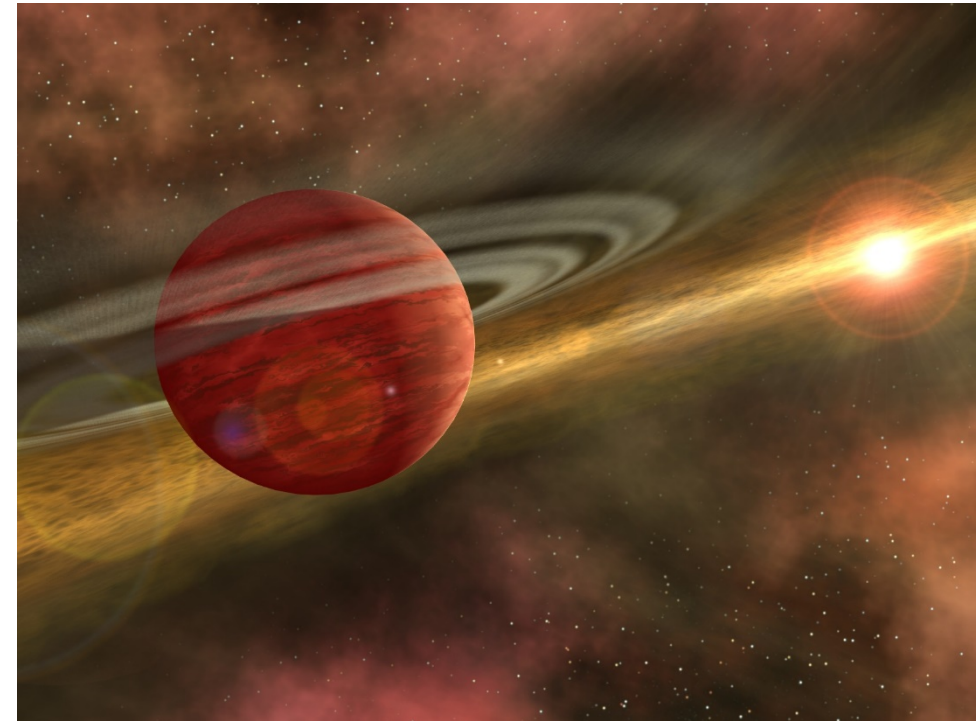
- 19 – 23 July 2021

- Expected to be fully virtual

- Free Registration opens mid-Feb

- Twitter: #sagan2021

NASA Keck Observatory Activities

- NASA Keck Time: 2021B Call For Proposals
  - All of astrophysics and planetary science topics
  - 2021B Proposals due 18 March 2021
  - Review moving to Dual Anonymous for 2022A semester (Fall 2021 call)
  - https://nexsci.caltech.edu/missions/KeckSolicitation/
- HIRES Precision Radial Velocity Processing Environment
  - Python API enables access to PRV processing service running on NExScI servers to produce precision radial velocities for HIRES data
  - Access to a pre-reduced HIRES data containing all compatible public radial velocity observations (60,000 RVs for over 1600 stars)
  - New data collected on a previously-observed star can be appended to the existing dataset
  - https://nexsci.caltech.edu/tools/prv_index.shtml
- New python-based API to Keck Observatory Archive (pyKOA)
  - Initial access to HIRES and DEIMOS data (more instruments coming)
  - Based upon NExScI-TAP service
  - https://koa.ipac.caltech.edu/UserGuide/PyKOA/PyKOA.html
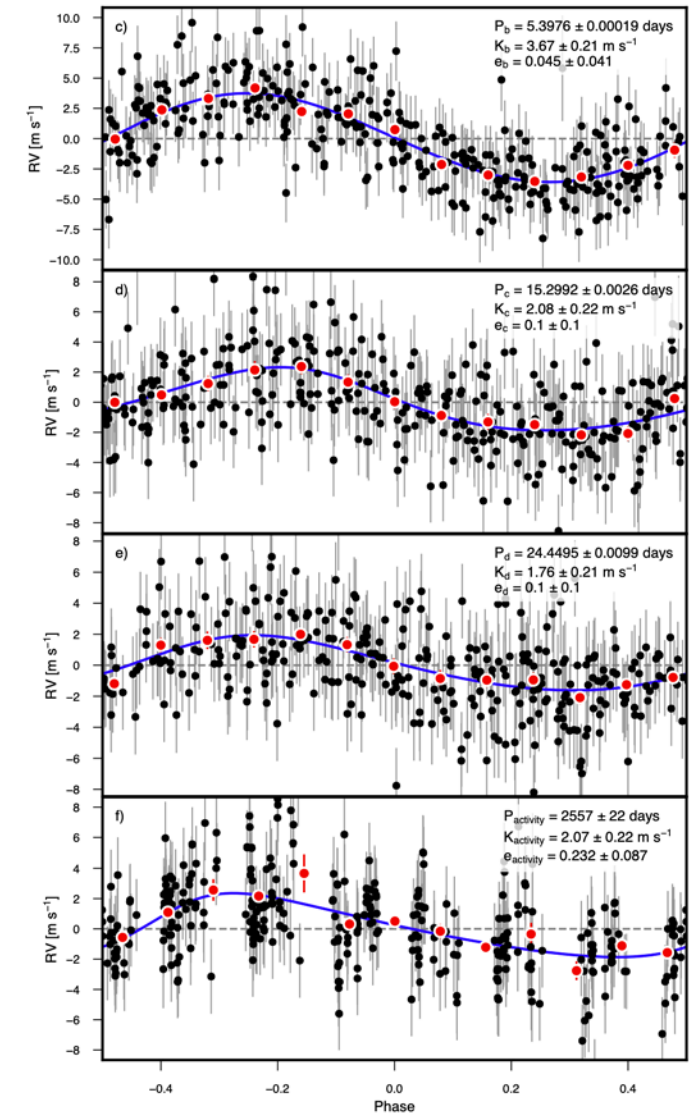
NASA Exoplanet Archive

- Archive undergoing a revamp to better manage the growth in the size and complexity of the field

- New releases of the Planetary Systems and Planetary Systems Composite Parameters tables
  - Integrated community feedback since initial releases
  - Older Confirmed/Extended/Composite tables to be phased-out in February 2021

- Release of new Overview Pages
  - Enabling more integrated access to content for a given planetary systems

- Feedback always welcome

- 2021 Priorities
  - Finish revamp
  - More integrated datasets and access through API
  - Python/Notebook tutorials
  - Improved UI/UX

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Enabling a More Integrated ExoFOP

https://exofop.ipac.caltech.edu

- ExoFOP continues to support the TESS mission and TESS Follow-up Observation Program
  - 90,000 files; 20,000 observing notes; 16,000 recorded observations
- As part of the Archive revamp and to enable more integrated access, ExoFOP is being consolidated: ExoFOP-Kepler, ExoFOP-K2, and ExoFOP-TESS into a single "all-sky" ExoFOP
- ExoFOP-Kepler migration nearly complete
  - 11,000 stellar parameter sets
  - 10,000 planet parameter sets
  - 16,000 observation summaries
  - 15,000 observing notes
  - 95,000 files
  - 3,500 stellar companion properties

Kepler	K2	K2 Campaign 9	TESS
8,214 stars 2,328 confirmed planets	362,860 targets 447 confirmed planets	Microlensing survey 627 events	TIC v8.1 2,428 TESS Objects of Interest
Go to ExoFOP-Kepler >>	Go to ExoFOP-K2 >>	Go to ExoFOP-K2C9 >>	Go to ExoFOP-TESS >>

- 2021 Priorities
  - Continued support of TESS Follow-Up Observation Program
  - Close-out ExoFOP-Kepler (February 2021)
  - ExoFOP-K2 data migration and close-out of ExoFOP-K2
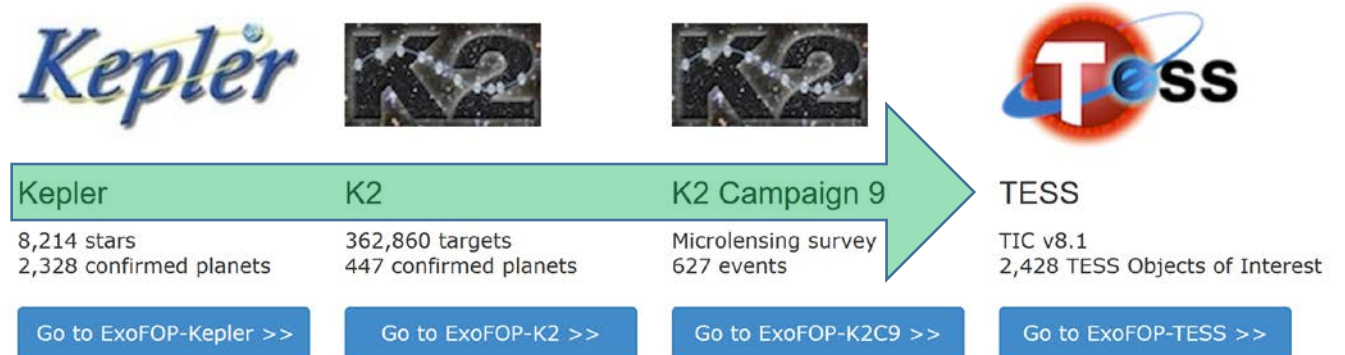
Come Join the Team …

- Scientific Application Developer
  - Work on the Exoplanet Archive and other NExScI projects in the development of user-oriented services for visualizing and data interaction
  - Background in Astronomy, Physics, Math, Computer Science, Computer Engineering, Information Sciences, or a related field.
  - Experience with C/C++, Python/Jupyter,and/or Java, server virtualization and cloud services, and containerization
  - https://jobregister.aas.org/ad/2d4996c6

- Science Data Analyst (coming soon)
  - Work on the Exoplanet Archive to make crucial contributions in maintaining the up-to-date database and archive content
  - Background in astronomy or physics
  - Experience with basic programming and scripting with python, perl etc.

Come See Us at the AAS Meeting!

- Booths and daily activities in the Exhibit Hall
  - NASA Exoplanets: NExScI with TESS and ExEP
  - IPAC Archives: Exoplanet Archive and KOA
- Webinars
  - Keck Observatory Archive: Monday 11 Jan 1pm ET
  - Exoplanet Archive: Monday 11 Jan 1:30pm ET
  - NExScI: Thursday 14 Jan 12:30pm ET