

Crowdfunding Astronomy with Google Sky

Travis Metcalfe
White Dwarf Research Corp.

Pale Blue Dot Project

 /adoptastar

 /adopt_a_star

adoptastar.whitedwarf.org





Image: NASA

Kepler Field of View



Milky Way

CYGNUS

Altair

Albireo

Vega

Deneb

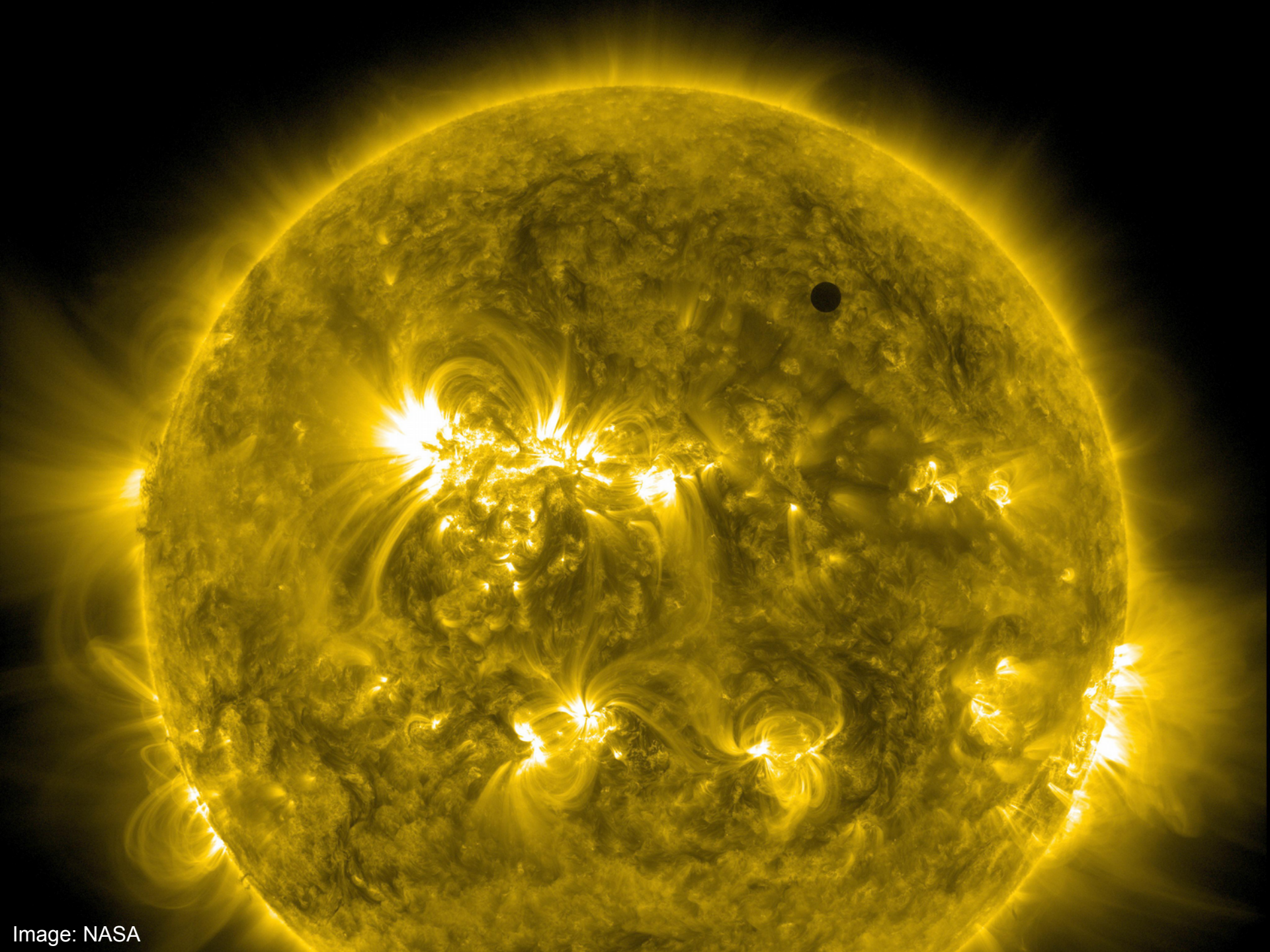
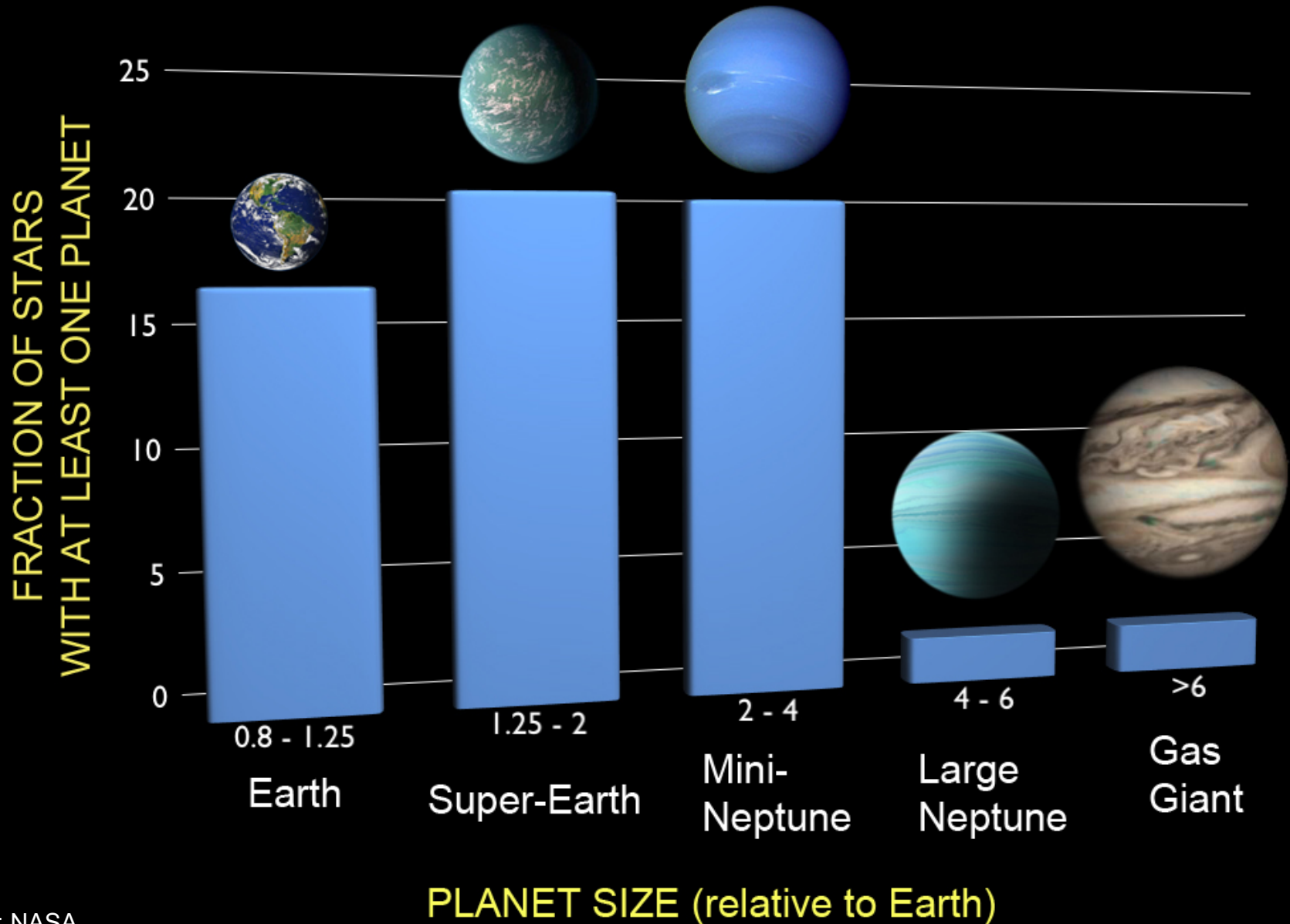


Image: NASA

Planet size distribution



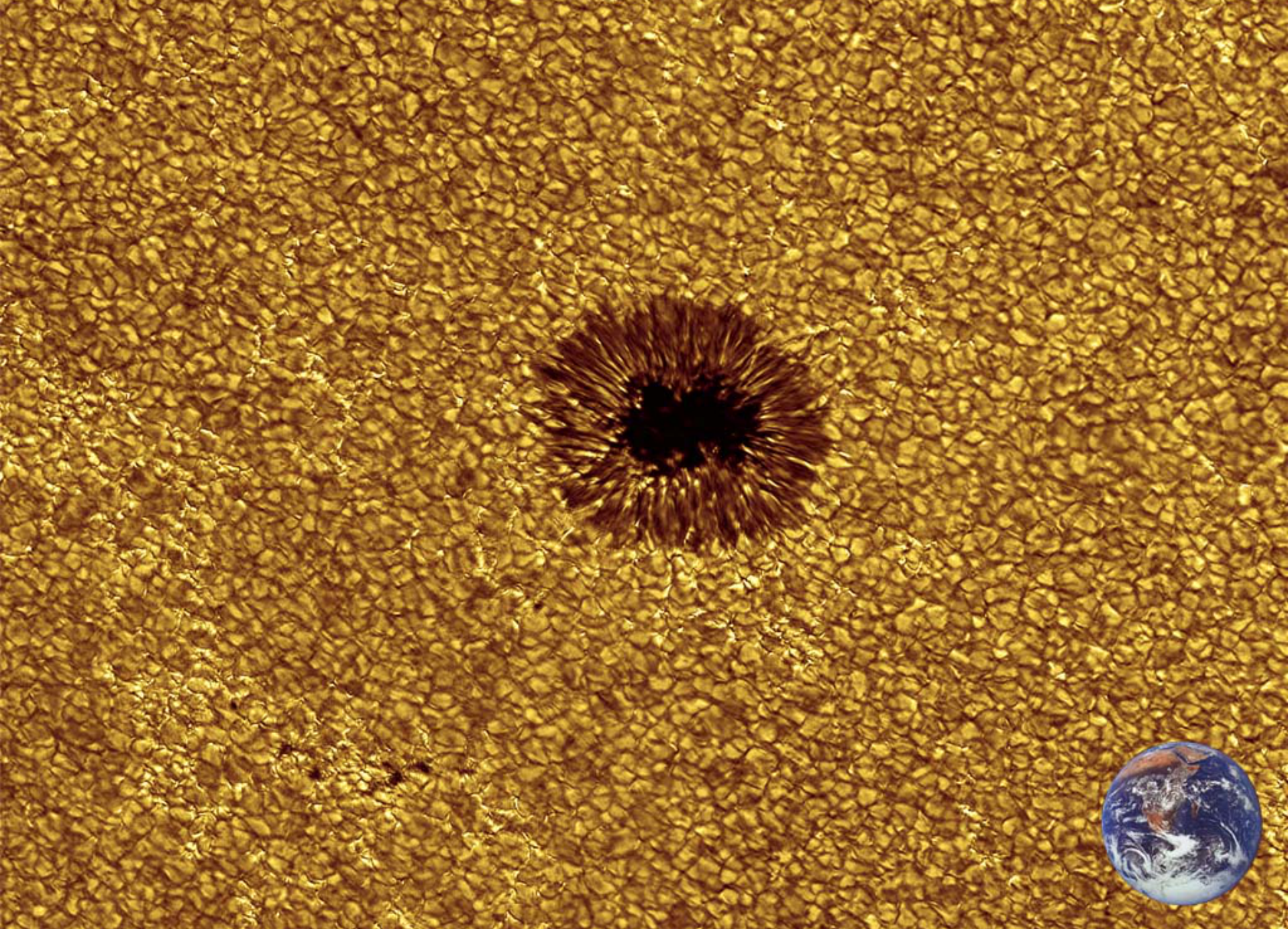
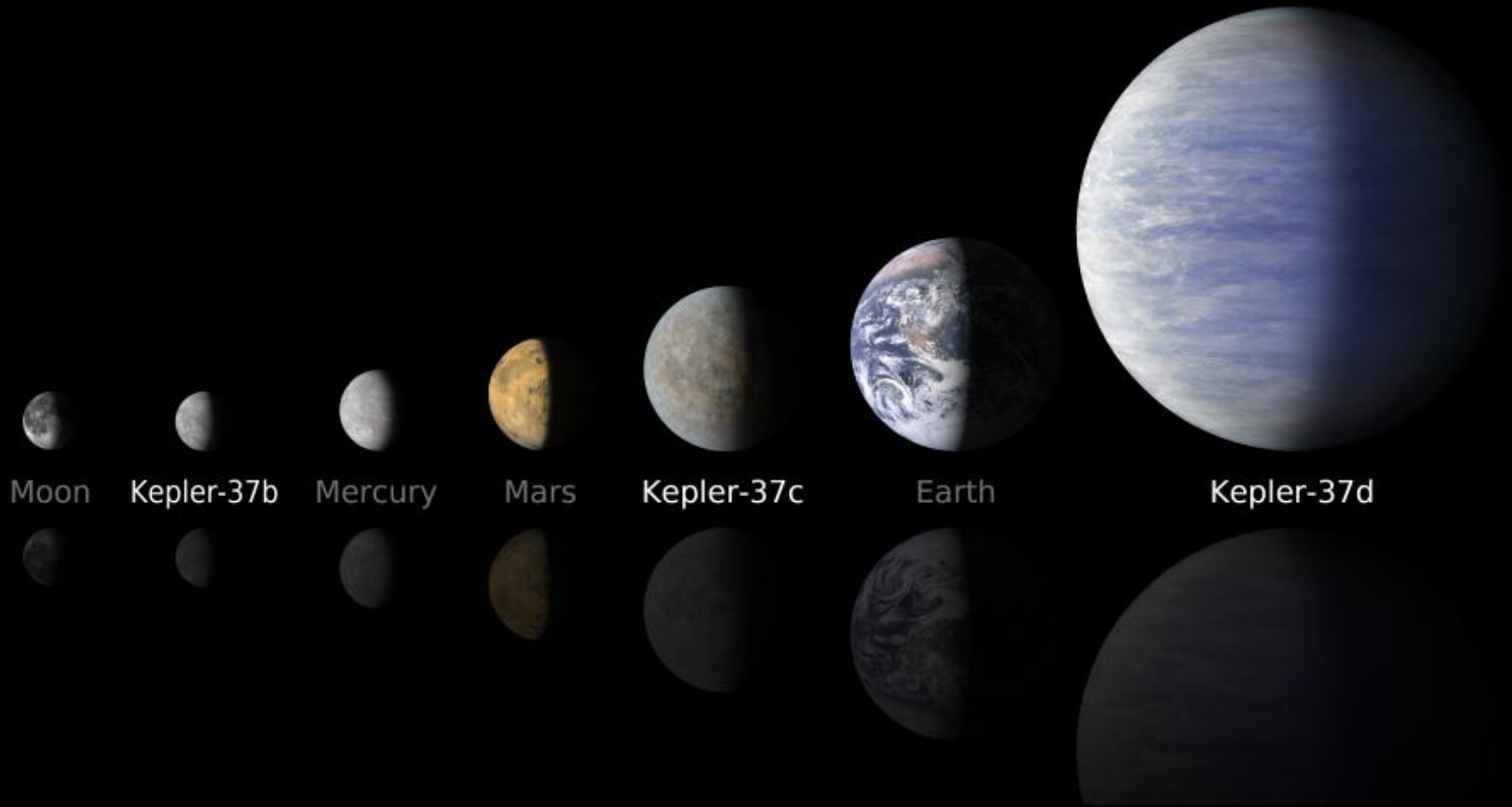
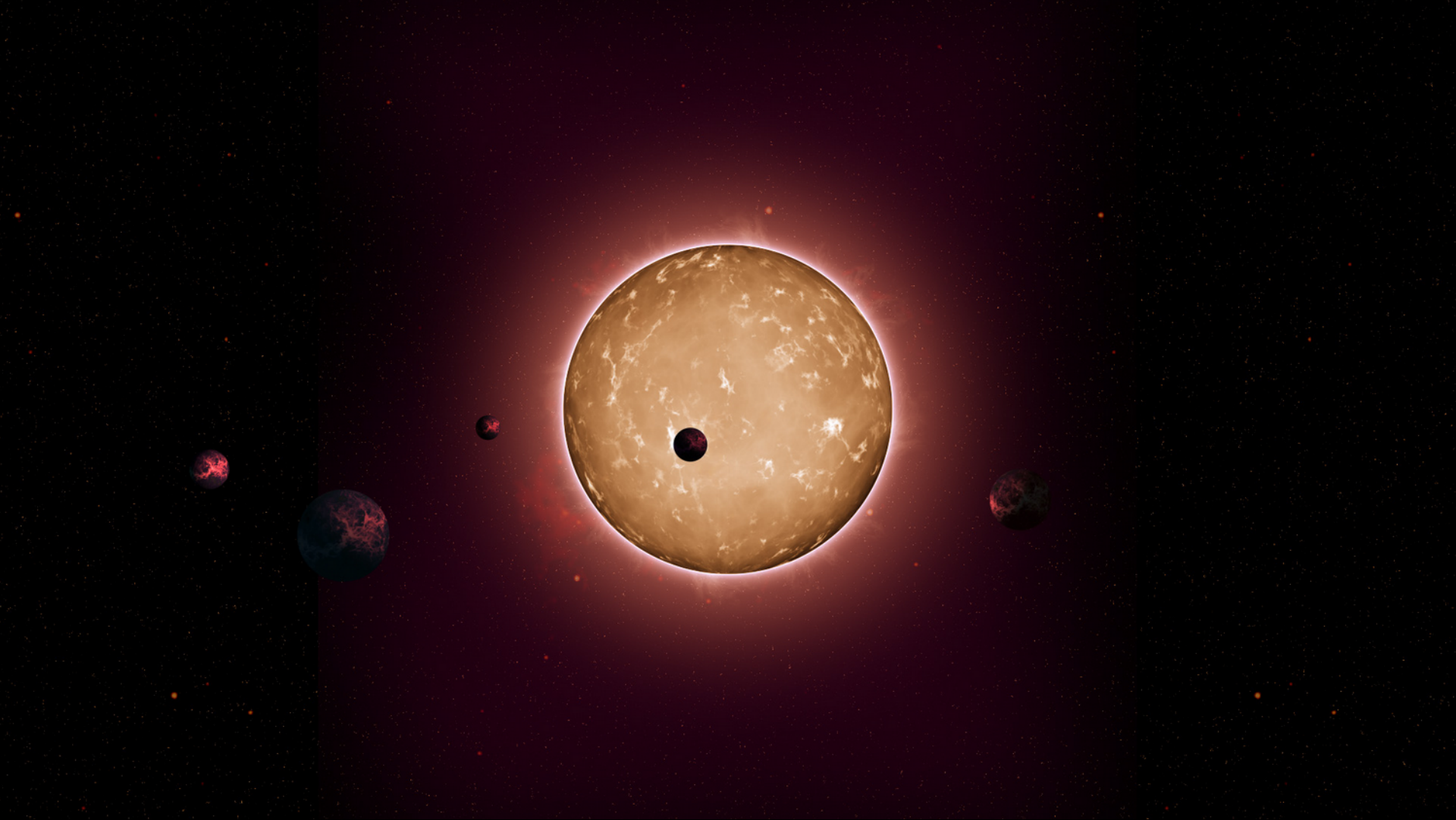


Image: Dutch Open Telescope

Kepler-37: smallest exoplanet



Kepler-444: ancient planetary system



Kepler Team Cuts Costs, Avoids Cancellation

by BRIAN BERGER, Space News Staff Writer | July 16, 2007 07:00am ET

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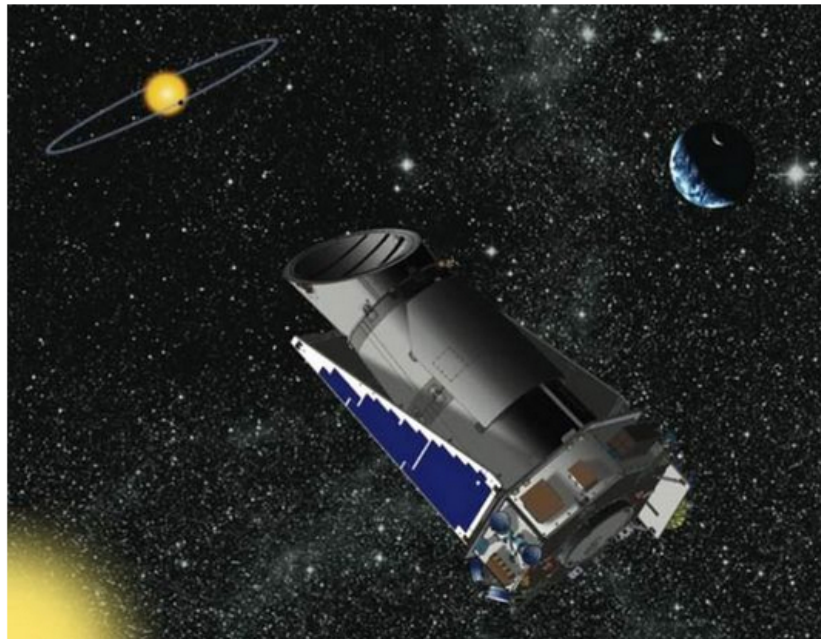
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Kepler with distant solar system.

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Credit: NASA

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Threatened with cancellation, the team building NASA's Kepler planet-hunting telescope found a way get the spacecraft to the launch pad by early 2009 without a new infusion of cash.

Kepler consists of a single instrument, a 0.95-meter Schmidt telescope optimized for scanning a field of stars for signs of potentially habitable [Earth-size planets](#). Integration of the spacecraft gets under way this summer, with the telescope due to be installed a year from now. A Delta 2 rocket is slated to launch Kepler into an Earth-trailing orbit.

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“...come back to me with numbers like these again and that will be the end of the project.” –July 2007



Alan Stern

adoptastar.whitedwarf.org

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Adopt a Star

adopt a star from a non-profit organization and support scientific research

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Since 2008, the Pale Blue Dot project has raised research funding for scientists through this non-profit adopt a star program for Kepler targets. When you adopt a star, 100% of your donation supports the search for Earth-like planets and characterization of the target stars by an international team of astronomers. Within a few minutes, you will receive an email with links to view your star and download your star certificate. If you adopt a planetary system, a special page also features your name. ★ [Read more »](#)



\$10



\$15



\$25



\$100

Certificate of Adoption

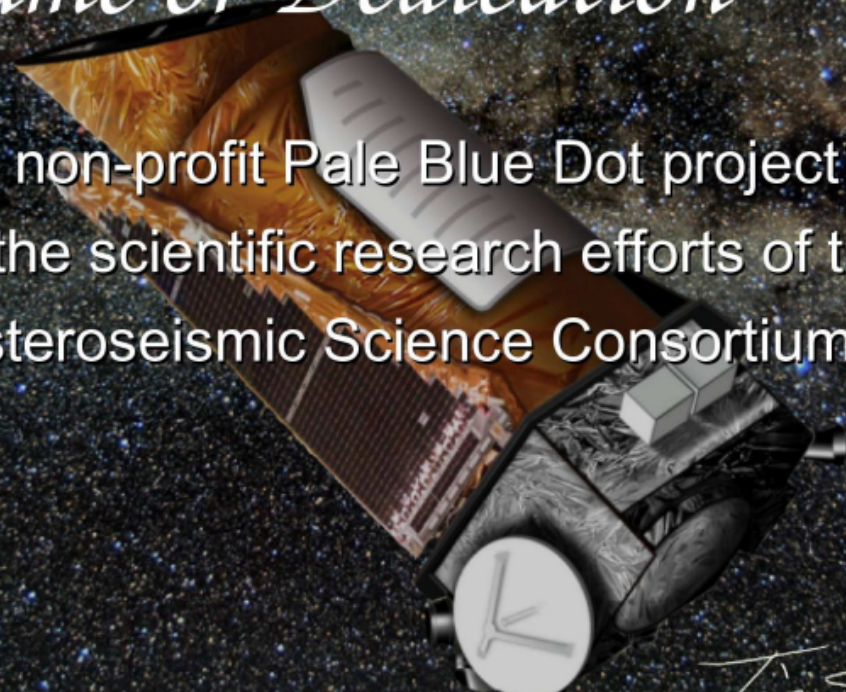
This certifies that a star has been adopted for

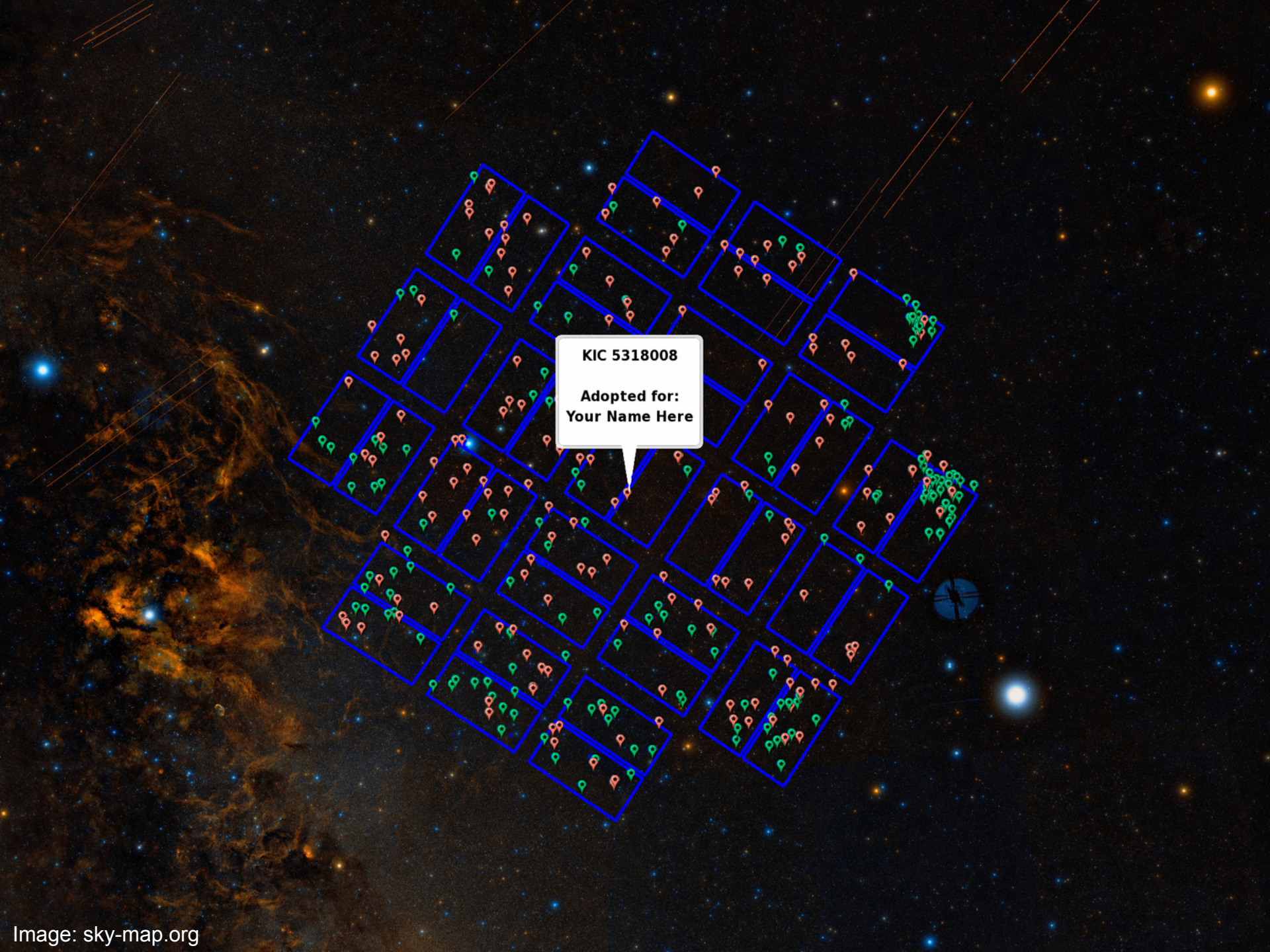
Name or Dedication

from the non-profit Pale Blue Dot project
to support the scientific research efforts of the
Kepler Asteroseismic Science Consortium.

Adopted star: **KIC 1234567**

<http://adoptastar.whitedwarf.org>


White Dwarf Research Corporation



KIC 5318008

Adopted for:
Your Name Here

Kepler Stars

Number	Mag.	Teff	log g	[M/H]	Adopted for
KIC 004820412	13.74	4810	3.288	-0.49	OhSehun View Star

Adopted for:

[OhSehun](#)

Star #:

☐ Available

☒ Type:

- ☒ target
- ☐ double
- ☐ suspect
- ☐ planet

☒ Order:

- ☒ brightest
- ☐ faintest

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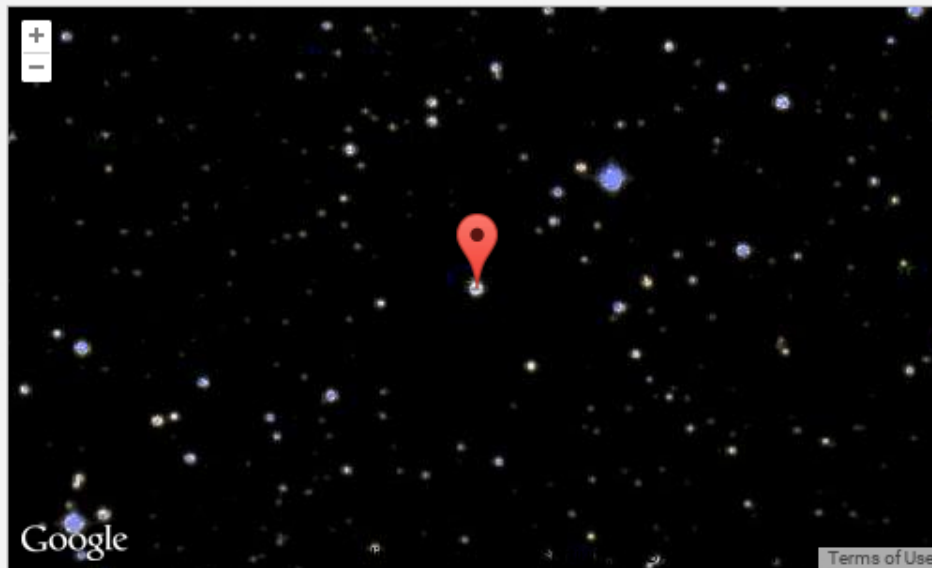
Target star

Number: KIC 004820412

Adopted for: OhSehun

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Mag.: 13.74

Teff: 4810

log g: 3.288

[M/H]: -0.49

Coordinates:

R.A. = 19h 6m 51.79s (sky coordinate for longitude)

Dec. = 39° 55' 8.7" (sky coordinate for latitude)

[Adopt a star](#) from a non-profit and support science!



Sjors Provoost

Kepler Stars

Number	Mag.	Teff	log g	[M/H]	Adopted for
KIC 004820412	13.74	4810	3.288	-0.49	OhSehun View Star

Adopted for:

[OhSehun](#)

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[Adopt a star](#) from a non-profit and support science!

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Stars Nearby

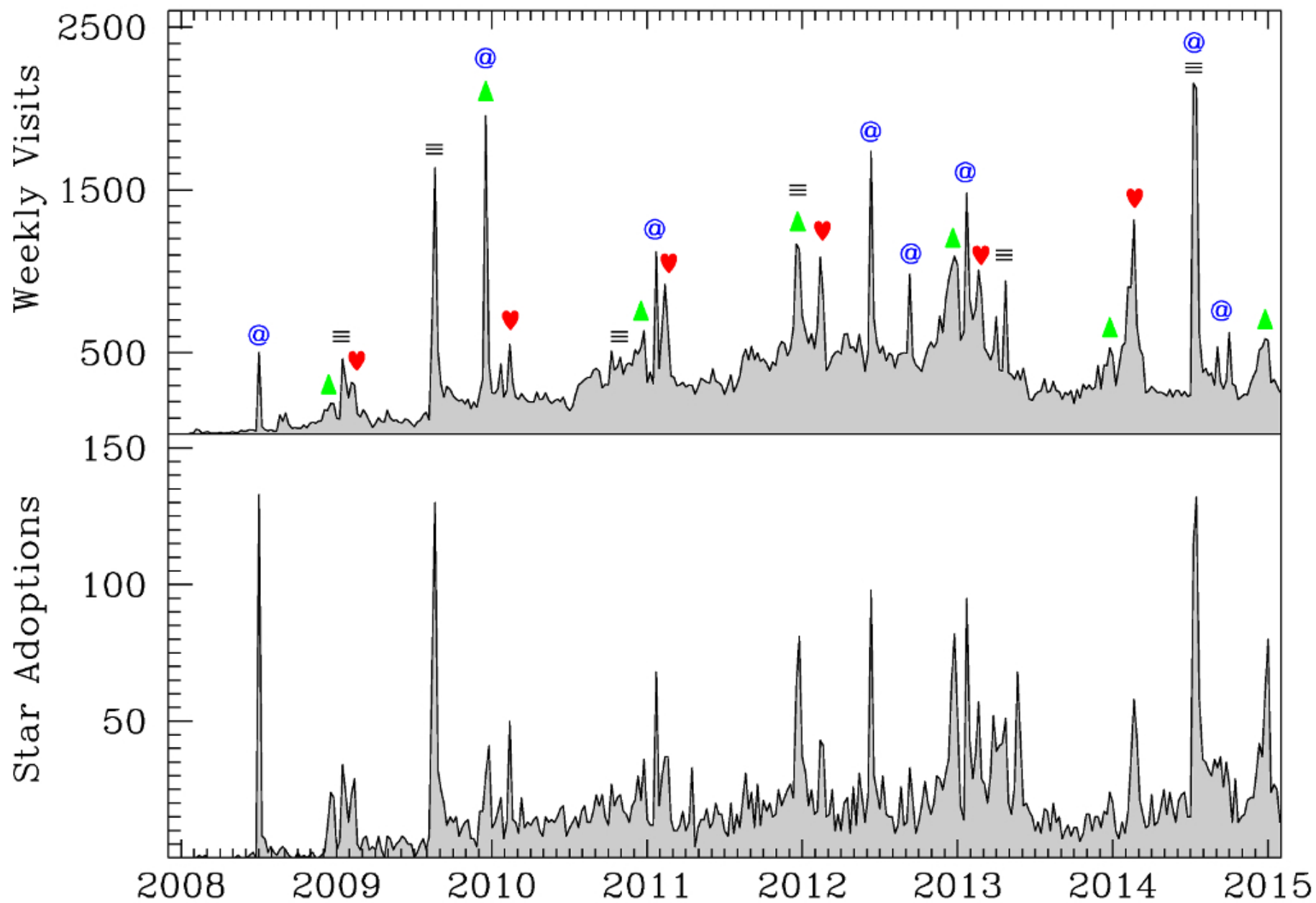
Number	Mag.	Teff	log g	[M/H]	Adopted for		
KIC 004731815	15.72	4264	4.656	-0.89	Name for Certificate	Add to Cart	View Star
KIC 004731919	14.53	4736	4.313	0.28	Name for Certificate	Add to Cart	View Star
KIC 004731929	12.03	6028	3.88	-0.05	Name for Certificate	Add to Cart	View Star
KIC 004820297	14.02	5074	4.432	-0.31	Name for Certificate	Add to Cart	View Star
KIC 004820318	14.19	5079	4.552	-0.25	Name for Certificate	Add to Cart	View Star
KIC 004820365	15.25	5738	4.402	-0.01	Name for Certificate	Add to Cart	View Star
KIC 004820368	11.55	6646	4.136	-0.48	Name for Certificate	Add to Cart	View Star
KIC 004820412	13.74	4810	3.288	-0.49	OhSehun		View Star

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NEWSFEED SCIENCE

A Star With a Not-So-Nice Nickname for Putin Won't Have to Change

Nolan Feeney @NolanFeeney | July 7, 2014



Ukrainian astronomers basically called it "Putin is a d—khead"

It's one small step for man, one giant leap for galactic name-calling.

Earlier this month, it was reported that a band of Ukrainian astronomers gave star KIC 9696936 the name "Putin-Huilo!" — a phrase which reportedly roughly translates into "Putin is a d—khead" — through the star-adoption service the Pale Blue Dot

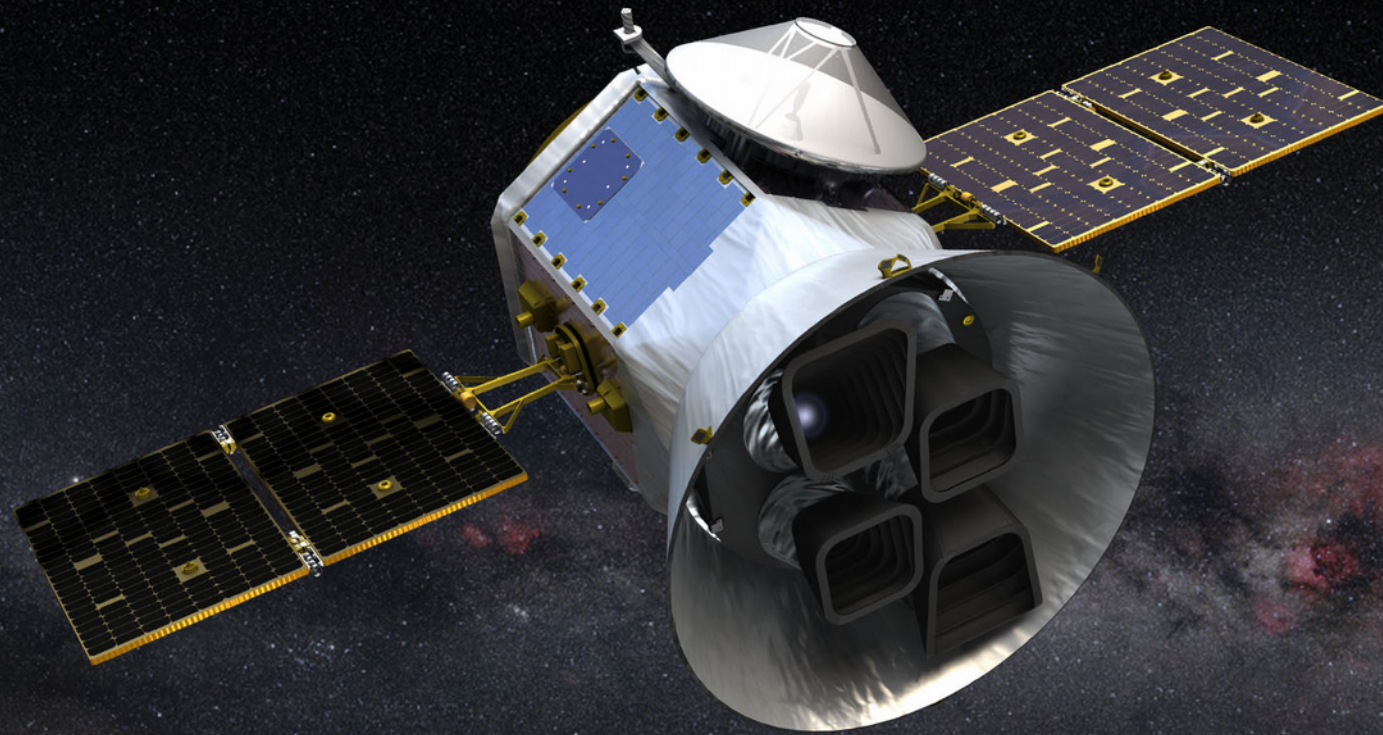




Image: Comedy Central



Image: UCAR



TRANSITING EXOPLANET SURVEY SATELLITE

*DISCOVERING NEW EARTHS AND SUPER-EARTHS
IN THE SOLAR NEIGHBORHOOD*



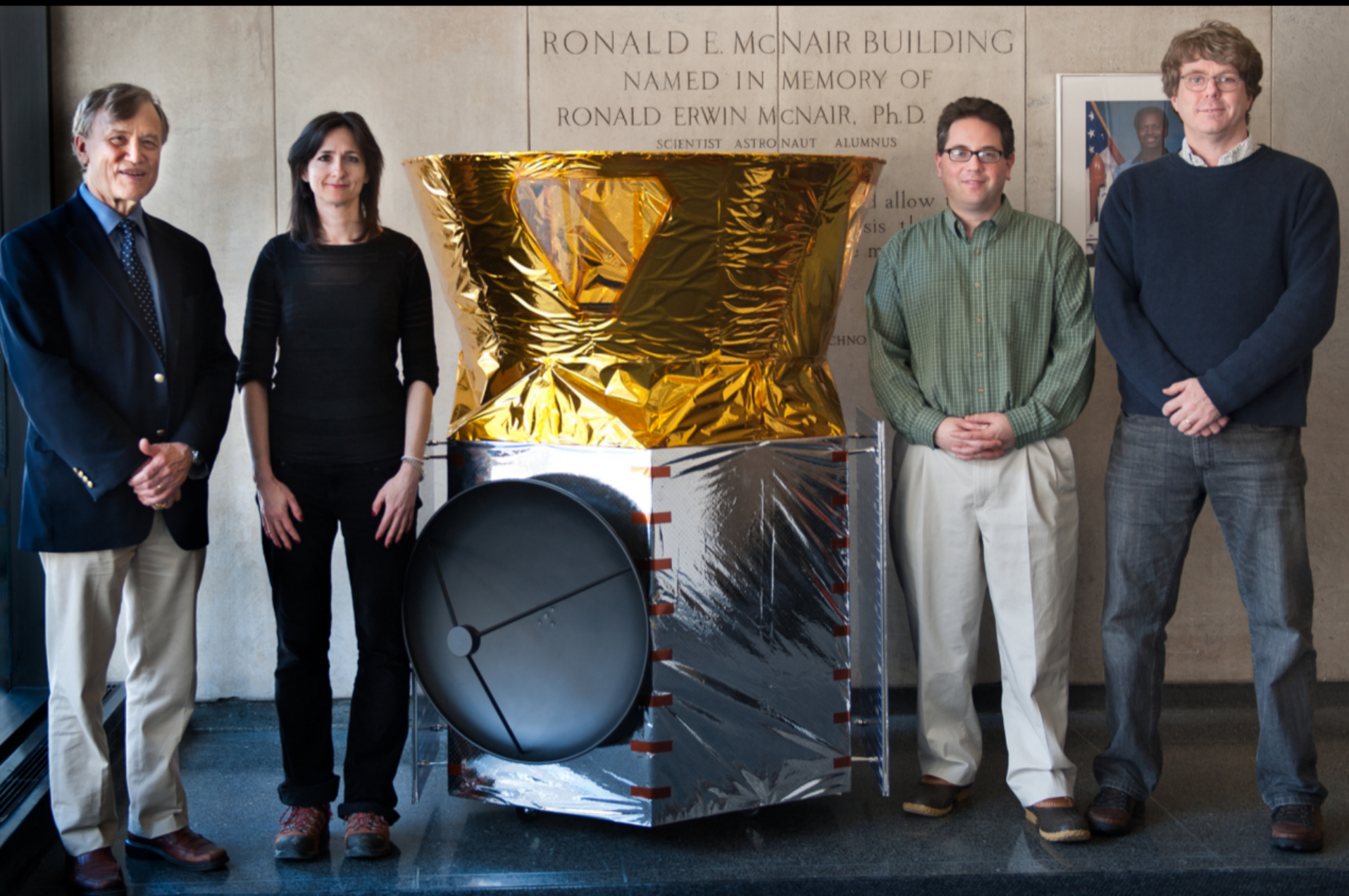


Image: TESS science team



Image: TESS science team

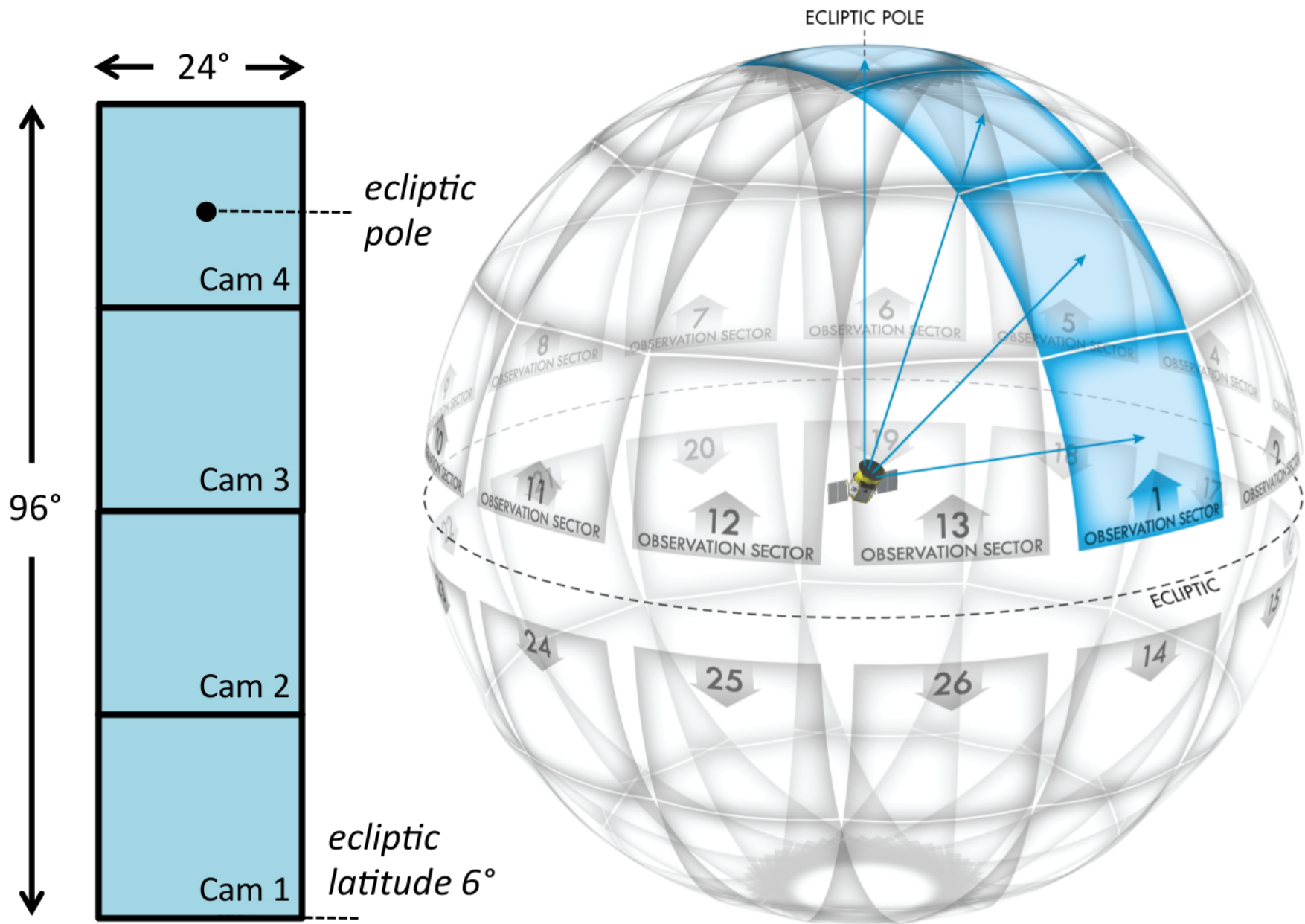


Image: TESS science team



US-based Stellar Characterization Team

The TESS Astrophysics Group (TAG) organizes collaboration and funding opportunities for US-based members of the TESS Asteroseismic Science Consortium (TASC). Our goals are to build regional capacity for asteroseismic analysis, to advocate for the interests of local researchers, and to collaborate with the TESS exoplanet team for stellar and planetary system characterization. Current members include:

- Sarbani Basu (Yale University)
- Tim Brown (Las Cumbres Observatory Global Telescope)
- Derek Buzasi (Florida Gulf Coast University)
- Ed Guinan (Villanova University)
- Joyce Guzik (Los Alamos National Laboratory)
- Steve Kawaler (Iowa State University)
- Savita Mathur (Space Science Institute)
- Travis Metcalfe (White Dwarf Research Corp.)
- Marc Pinsonneault (Ohio State University)
- Dave Soderblom (Space Telescope Science Institute)
- Rich Townsend (University of Wisconsin Madison)
- Jen van Saders (Carnegie Observatories)



With no mission support for characterization of the newly-discovered exoplanets, we are now seeking public and private funding for TAG science projects. Please contact tess@asteroseismology.org with any questions.

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Properties of TESS Exoplanets

Cause Project

by [WHITE DWARF RESEARCH CORPORATION](#)

\$2,000,000

Donation Goal

Project Details

NASA's Transiting Exoplanet Survey Satellite (TESS) will search for planetary systems around the nearest and brightest stars in the sky. After launching in August 2017, it will conduct a two year mission to scan the entire sky using essentially the same method used by the Kepler mission. TESS has a much more constrained budget than Kepler, covering only the costs of hardware, launch by SpaceX, identification of candidate planetary systems, and some ground-based observations to eliminate spurious detections. Crucially, there is no budget to determine the properties of the new planetary systems after they have been discovered.

This project seeks funding for the TESS Asteroseismology Group (TAG), a US-based team of researchers who specialize in the characterization of planetary systems by determining the properties of the parent stars. The TAG team will use specialized techniques including asteroseismology and gyrochronology to determine the absolute sizes and ages of the planets discovered by TESS. They will also obtain observations of stellar magnetic activity to help assess the habitability of these planets.



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Volunteer opportunities


Integrated payments: current system is built around third-party donations. Hinders improved analytics.

Real-time processing: now driven by shell scripts and cron jobs. Not scalable to frequent donations.


Social & Mobile: minimal integration of social and mobile functions. Missed conversion opportunities.

Kickstarter campaign: fundraising prior to the 2017 TESS launch to hire students and raise awareness.

 – sponsored online advertising

 – sponsored website hosting

 – discounted donation processing

 – marketing optimization

Sjors Provoost – database development

Ian Shorrock, Robert Piller – website development