Across the Cosmos January 2026:
The Search for Habitable Worlds

More than two decades ago, I began teaching a class in the *Epic of Creation* series[1] at the *Zygon Center for Religion and Science* entitled "The Ongoing Creation of Stars, Planets, and, Possibly, Life." The *Epic of Creation* presents scientific, biblical, and theological perspectives on our origins. For many years, individual classes were attended by interested members of the general public as well as seminary students at the Lutheran School of Theology at Chicago, who took the entire series for course credit. When I started teaching my class, there were roughly 135 recognized exoplanets (compared to over 6000 today). Many of these were so-called "hot Jupiters" – giant worlds that orbited very close to their stars. There was much excitement when, in 2004, two Neptune-sized worlds were discovered.[2] At the time, NASA was talking about future missions then known as the Terrestrial Planet Finder (TPF), the Life Finder, and the Planet Imager.

The TPF was envisioned to take "family photos" of exoplanetary systems that would identify Earth-like exoplanets and study the composition of their atmospheres. Its proposed launch date, which was initially around 2012, kept being pushed back until the proposed design of a space interferometer was abandoned.[3] The Life Finder and Planet Imager were pie-in-sky concepts that would have built on TPF results. As you can probably infer from the names, the Life Finder was – you guessed it – to be designed to find signs of life, and the Planet Imager was to obtain resolved images of exoplanets.

While mission designs have changed considerably over the past 20 years, astrobiology, particularly the search for habitable worlds, remains an area of intense scientific interest. JWST has been yielding very interesting results on "nearby" exoplanet atmospheres through the technique of transmission spectroscopy,[4] and of course the Kepler and TESS missions identified many terrestrial-sized worlds.[5] Just this month, NASA announced the selection of industry proposals to advance technologies for the Habitable Worlds Observatory concept – the first mission that would *directly* image Earth-like planets around other stars similar to our Sun and study the chemical composition of their atmospheres to search for signs of life.[6]

I encourage any of you who might be interested in keeping up on current events in

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[1] https://www.luthscitech.org/epic-of-creation-gods-awesome-natural-world-an-awesome-act-of-storytelling/

[2] https://www.jpl.nasa.gov/news/scientists-discover-first-of-a-new-class-of-extrasolar-planets/

[3] https://science.nasa.gov/photojournal/proposed-missions-terrestrial-planet-finder/

[4] https://science.nasa.gov/mission/webb/science-overview/science-explainers/webbs-impact-on-exoplanet-research/

[5] https://exoplanetarchive.ipac.caltech.edu/

[6] https://astrobiology.com/2026/01/nasa-selects-proposals-to-advance-the-habitable-worlds-observatory-astrobiology-mission-concept.html

planetary and exoplanetary science to sign up for PSI's Weekly Briefing[7] – it's a great way to get short news clips about what's going on!

Until next month,

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[7] https://mailchi.mp/psi/weeklybriefing (or just click on "Subscribe") on the PSI main page: https://www.psi.edu/