

Launch of NameExoWorlds 2022 Competition — IAU Global Contest to Name the Next Exoplanets and Their Host Stars

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To celebrate the 10th anniversary of its Office for Astronomy Outreach (OAO), the International Astronomical Union (IAU) is launching a contest to name 20 exoplanetary systems to be observed by *JWST*. The competition, NameExoWorlds 2022, was announced at a press conference at the XXXI IAU General Assembly, held in Busan, South Korea. The contest seeks to bring together both professional astronomers and the wider public, giving them the opportunity to name the 20 selected exoplanets along with their host stars.

Through the NameExoWorlds initiatives, the IAU and its partners¹ recognise the importance of the connections between the sky and our diverse cultures. The NameExoWorlds 2022 contest invites communities across the globe to connect their own cultures to these distant worlds. Each team can propose a name for an exoplanet and its host star from a list of confirmed objects (referred to collectively as “ExoWorlds” in this competition).

Cultures around the world have long made connections with objects in the natural world by giving them names in their native tongues. Many civilisations have developed their own stories, mythologies, and cultural contexts around specks of light in the heavens above. Through these connections, we eventually found our place among the stars. This is the story of how astronomy came to be among the earliest of the disciplines we now call science, and the beginning of humanity’s eternal quest to understand the Universe around us.

When the IAU was created in 1919, one of the tasks delegated to the professional astronomers was to catalogue celestial objects and provide consistent conventions

for naming them. Advances in science and technology have recently enabled us to detect a new category of celestial object, called exoplanets – planets orbiting other stars. The first exoplanets were discovered just three decades ago and over 5,000 have been identified since. Most of these planets are only referred to by their scientific designations and have no connections to our stories and cultures.

Reflecting the truly international interest in astronomy, the first NameExoWorlds competition, in 2015, named 19 ExoWorlds (14 stars and 31 exoplanets orbiting them), with over half a million votes from 182 countries and territories. In 2019, as part of the IAU’s centennial celebrations, the 2019 NameExoWorlds competition offered every country the chance to name one planetary system, comprising an exoplanet and its host star. As part of this contest, 112 countries organised national campaigns that involved the direct participation of over 780,000 people worldwide.

The systems to be named by NameExoWorlds 2022 are of special interest, as they are among the first exoplanet targets of the *James Webb*

Space Telescope (JWST). This international space observatory, led by the National Aeronautics and Space Administration (NASA) with its partners, the European Space Agency (ESA) and the Canadian Space Agency (CSA), had its first light in July 2022. The exoplanets have been discovered through a mix of techniques, mostly via the transit method and direct imaging.

NameExoWorlds 2022 is a collaboration between the Executive Committee Working Group on Exoplanetary Systems Nomenclature² and the IAU Office for Astronomy Outreach. Anyone, including students and teachers, astronomy enthusiasts, amateur astronomers, and exoplanetary scientists may form a team and propose names for 20 exoplanetary systems, each of which consists of one known exoplanet and its host star.

Debra Elmegreen, IAU President, notes “*It is exciting to have a new NameExoWorlds competition underway to celebrate the 10th anniversary of the Office for Astronomy Outreach. Their work over the past decade has had a global impact, and*

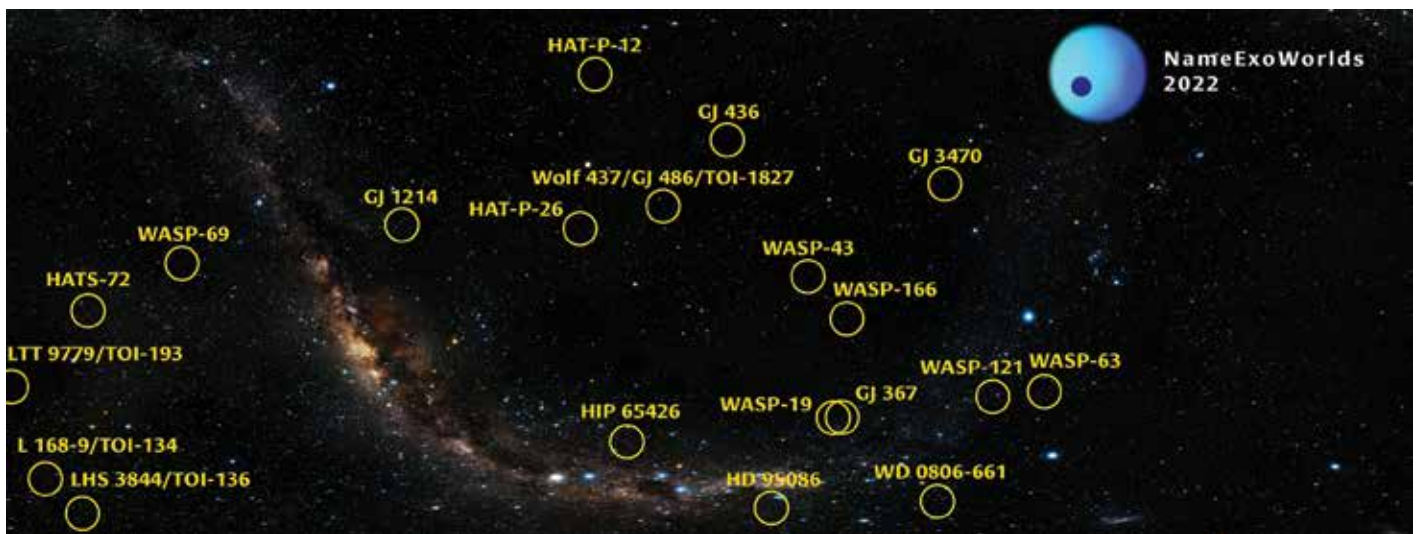


Figure 1. The systems to be named by NameExoWorlds 2022 are among some of the first exoplanet targets of the James Webb Space Telescope. The exoplanets have been discovered through a mix of techniques, mostly via the transit method and direct imaging. Credit: IAU OAO/NARIT/M. Tangmatitham

this competition is yet another way to bring people together through astronomy.”

“In the last decade, the OAO has strived to build bridges between professionals, amateurs, communicators, educators, and the public. Through its collaborative nature and diverse levels of scientific engagement, NameExoWorlds is one excellent example that embodies OAO’s mission of making astronomy accessible to all,” adds Lina Canas, Director of the IAU Office for Astronomy Outreach.

How Can You Participate?⁴

- Create a team that brings together students and teachers, astronomy enthusiasts, amateur astronomers, and professional astronomers.³
- Conduct an astronomy outreach event related to exoplanets.
- Choose a system from the 20 ExoWorlds on the list.
- Propose a name for the exoplanet and its host star in your language and provide an explanation of the cultural context.
- Register your team and submit your naming proposal;

The proposals will go through a two-step process of selection. First, a national selection panel, led by the National Outreach Coordinators (NOCs)⁵, will select a national candidate and two backup names. Then, a final selection committee

– composed of the Working Group on Exoplanetary Systems Nomenclature and the exoplanet discoverers – will consider the candidates proposed by each country and select a name for each ExoWorld.

The names will be selected based on the description and meaning behind them, and the outreach activities held by each team. Finally, the 20 ExoWorlds will be announced, and the associated names will be recognised by the IAU as the official public names of these ExoWorlds⁶.

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Notes

¹ The NameExoWorlds partners are the National Astronomical Observatory of Japan (NAOJ) and the National Astronomical Research Institute of Thailand (NARIT).

² The Executive Committee WG Exoplanetary System Nomenclature is a recently formed IAU Working Group tasked with providing advice on guidelines for the naming of exoplanets and their host stars, as well as supporting the IAU’s public naming campaigns for exoplanetary systems.

³ The IAU encourages participating groups to establish collaborations and create teams composed of some combination of teachers and students, astronomy enthusiasts, amateur astronomers and exoplanetary scientists, and together brainstorm name ideas for one of the ExoWorlds (exoplanet + host star) available for naming.

⁴ For more information on how to participate in NameExoWorlds 2022, please refer to our website: <https://www.nameexoworlds.iau.org/>

⁵ The IAU National Outreach Coordinators (NOCs) will provide support to the teams, including by facilitating the connections between different groups within a team. The IAU Office for Astronomy Outreach coordinates the Meet the IAU Astronomers! Programme, which can help participating teams get in contact with professional astronomers, including exoplanetary scientists.

⁶ The winning names will not replace the scientific designations that already exist for all exoplanets and their host stars, but they will be sanctioned by the IAU as the official public names, and will be publicised as such. Due credit will be given to the communities that proposed them. These public names may then be used freely worldwide, along with, or instead of, the original scientific designation.