Discover Exoplanets: The Search for Alien Earths
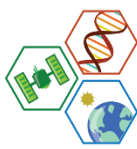
Application guidelines

APPLICATION RECEIPT DEADLINE: January 5, 2018

Date application posted: October 20, 2017

Pre-Application Webinar: December 6, 2017

Questions? Contact Anne Holland, Community Engagement and Exhibits Manager at the National Center for Interactive Learning at 1-720-974-5876, or aholland@spacescience.org. (Email preferred)

I. Project Overview

The *National Center for Interactive Learning* (NCIL) at the Space Science Institute (SSI) is seeking eight library and museum partner sites to host the inaugural national tour of the interactive traveling exhibition *Discover Exoplanets: the Search for Alien Earths.* Public libraries and small museum partners in rural areas and those serving rural populations and underrepresented groups are especially invited to apply.

This program is slightly different from prior *STAR_Net* programs and SSI museum exhibition programs. This project aims to help public libraries and small museums to become better partners, through the shared experience of the *Discover Exoplanets* exhibition. SSI is fabricating 2 exhibits, one for display at libraries, and the other for simultaneous display at partner museum sites. A primary applicant (from either a library or museum) will complete the application, and a secondary applicant will provide a letter of commitment to append to the application.

Discover Exoplanets is made possible through NASA's Universe of Learning. NASA's Universe of Learning materials are based upon work supported by NASA under award number NNX16AC65A to the Space Telescope Science Institute, working in partnership with Caltech/IPAC, Jet Propulsion Laboratory, Smithsonian Astrophysical Observatory, and Sonoma State University.
The exhibition and its educational support materials and outreach opportunities are part of the STAR (Science-Technology Activities and Resources) Library Education Network (*STAR_Net)*, a hands-on learning program for libraries and their communities, and NASA's *Universe of Learning*. STAR_*Net* seeks to engage underserved youth and their families in fostering an appreciation and deeper understanding of science and technology topics through STEM (Science, Technology, Engineering and Math) programs in public libraries, and library collaborations with scientists, engineers, and STEM organizations. *Universe of Learning* NASA's Universe of Learning draws from discoveries, scientific data, and subject matter experts from across NASA to create and disseminate STEM learning products, programs and professional

development experiences that empower audiences to discover the universe for themselves.). The *Discover Exoplanets* traveling exhibition includes an evaluation of informal STEM education in library and museum settings. Participation in this evaluation project is mandatory for selected sites, and may include site visits.

Discover Exoplanets will tour from October 2018 through late 2020. The eight site pairs selected will host the exhibitions for a period of approximately three months each (minus travel time). The exhibitions requires 600 square feet of space for optimal display (each exhibit is approximately 600 square feet). Each host library will be asked to actively participate in a national professional learning community called the *STAR_Net Online Community*.

The project includes a two-day orientation and program planning workshop (in Boulder Colorado) for two staff members from each successful applicant team (the project director from the library and project director for the museum, or suitable substitute). The workshop (scheduled for September of 2018) will cover hands-on science activities; programming and outreach consultation; and a number of professional development resources, including the *STAR_Net Online Community*, which will involve sharing of best practices among librarians, museum educators scientists, engineers and others who want to bring effective STEM learning experiences to public audiences in informal settings. Costs related to travel to the workshop, including meals, flights and hotel, will be covered by the program.

The exhibition

The *Discover Exoplanets* exhibition provides an introduction to the search for life on other planets, and the tools NASA scientists use to search for exoplanets. The "Big Idea" for this exhibition is "NASA is finding habitable worlds in our own stellar neighborhood."

Learning goals for visitors include:

1. Understanding how our Solar System is alike, and different from, other Solar Systems
2. Learning how NASA is searching for habitable worlds, and what tools scientists use to aid in this search
3. Gaining a better understanding of "Our Place in Space", including such concepts as scale, habitability, and point of view
4. Understanding that NASA uses different telescopes/tools to observe different types of objects, no one instrument can answer all the questions

Tentative Exhibit Components:

Library Exhibition

L.1 Introduction Banner (double sided with credits)

L.2 Eyes on Exoplanets
        L.2.a   Eyes on Exoplanets Kiosk
        L.2.b   Banner

L.3 Planet Families
        L.3.a   Planet Families Kiosk
        L.3.b   Planet Families Banner 1
        L.3.c   Planet Families Banner 2

L.4 Transits
        L.4.a   Transit Interactive
        L.4.b   Transit Banner 1
        L.4.c   Transit Banner 2

L.5 Fact or Fiction
        L.5.a   Fact or Fiction Kiosk
        L.5.b   Fact or Fiction Banner

L.6 Seeing the Unseen (Telescopes and Wavelengths)
        L.6.a   Seeing the Unseen Kiosk
        L.6.b   Seeing the Unseen Banner
        L.6.c   Great Observatories Banner

L.7 Facilitation Kit
        L.7.a   VR goggles
        L.7.b   Maker Constellations

Museum Exhibition

M1 Introduction Banner (double sided with Credits)

M2 Eyes on Exoplanets
        M.2.a   Eyes on Exoplanets Kiosk
        M.2.b   Banner

M3 Planet Families
        M.3.a   Planet Families Kiosk
        M.3.b   Planet Families Banner 1
        M.3.c   Planet Families Banner 2

M4 Green Screen Interactive
        M.4.a   Green Screen Interactive Kiosk
        M.4.b   Green Screen
        M.4.c   Banner 1
        M.4.d   Banner 2

M5 Constellation Interactive
        M.5.a   Constellation Interactive
        M.5.b   Banner 1
        M.5.c   Banner 2

M6 Micro-observatory
        M.6.a   Micro-observatory kiosk
        M.6.b   Banner

M7 Thematic banners (TBD)
        M.7.a   Banner 1
        M.7.b   Banner 2
        M.7.c   Banner 3

Exhibition Physical Details

- Each exhibit requires approximately 600 square feet of floor space for optimal display. The display space does not have to be contiguous.
- The minimum ceiling height for exhibition components is 8 feet.
- Libraries and museums should have wireless Internet access in the display area, and at least five electrical outlets nearby. (This allows us to remote in to digital components to fix problems)
- The exhibition will travel in approximately 1-2 large shipping crates, some of which will need to be stored during the display period. Containers will not exceed dimensions of normal doors.

Orientation Workshop/Webinars

There will be a two-day *Discover Exoplanets* exhibition orientation workshop in September of 2018 in the Boulder, Colorado area for the eight libraries selected for the tour. Host sites will send one person from each venue (presumably the Project Director from each venue) to participate in the workshop. Shorter online opportunities will be made available for other project staff.

The workshop will include:

- Information about *Discover Exoplanets* content and science themes presented by scientists and the project team
- Presentation and demonstration of hands-on science activities appropriate for various ages.
- Presentations and interactive discussions about:
  Ways to engage children and families in science
  Additional programming resources, including a Family Guide and Teacher's Guide to the exhibition
  Programming ideas during and after the *Discover Exoplanets* tour
  Discussion of possible community reactions to the exhibition and resources
  Building local partnerships with those who can support *Discover NASA* content
  Participating in the project's Online Community (and the tools that support continued collaboration)
  Exhibition assembly, maintenance, and take-downs.

There will also be webinars to offer program support to host sites in preparation for the exhibition tour, including:

Children's and Youth Librarians' Webinar: Following the in person exhibition orientation workshop, there will be an online training for children's and youth public program providers. At least one staff member from each institution is required to attend. Public program providers who will partner with the host institutions to implement programs for children, youth, and families will also be welcome to attend. During this webinar, participants will:

- Undertake hands-on space science activities provided in the *Discover Exoplanets* module

- Discuss ways to adapt the activities to different programming schemes; and
- Discuss techniques for facilitating STEM experiences for library patrons.

Professional Training /Project Support

Support Materials

There will be notebooks of support materials distributed at the exhibition orientation workshop:

1. A **Site Support Notebook** will include programming, publicity, and resource and logistics information for the *Discover Exoplanet* exhibition.

2. *STAR_Net's* **Discover NASA Activity** Module will contain in-depth guides to hands-on space science activities, which are specifically designed for use in the library setting with three different age groups: ages 5-7, ages 8-9 and 10-13, and teens. Through the activities, children and teens will explore the central ideas of the *Discover Exoplanets* exhibition.

The *STAR_Net Online Community*

The *STAR_Net Online Community* currently has over 9000 members from all 50 states, Canada, Mexico and the Philippines. Approximately 300 members of the community are STEM professionals who are working with their local libraries to provide STEM programming. The *STAR_Net* team is guided by the extensive body of research on communities of practice such as (1) identifying gaps in knowledge and developing a learning agenda; (2) measuring the value of the community; (3) maintaining a cutting-edge focus; and (4) continuing to build and organize a knowledge repository. The *STAR_Net Online Community* will foster continued learning and professional training for its members, and the formation of partnerships and collaborations to bring a variety of STEM programs to libraries. Please visit the website at http://www.starnetlibraries.org for more information.

Universe of Learning
How does the universe work? How did we get here? Are we alone? NASA's Universe of Learning is a unique partnership between the Space Telescope Science Institute, Caltech/IPAC, Jet Propulsion Laboratory, Smithsonian Astrophysical Observatory, and Sonoma State University. Working together, this partnership has a direct connection to science from all NASA Astrophysics missions. With these resources, NASA's Universe of Learning is able to bring the stories, adventures, and scientific discoveries of space exploration to the inquisitive minds of all learners.

Other Project Information

All public libraries and museums chosen as hosts for the exhibition are required to do the following:

- Sign a contract with the exhibition sponsor (NCIL@SSI) agreeing to programming, publicity, evaluation, reporting, participation in the *STAR_Net Online Community*, and other project requirements.

- Present a minimum of 10 public programs in collaboration with community organizations, local scientists, and scientists and educators available through the sponsors. The ten programs should be for different age groups, including one opening event, three public programs for adults, three public programs for families, and three programs for out of school K-12 children (one of these should be an after-school program). Any one of these programs may be combined with the opening event. At least one event must include strong NASA themes. Some programs must use *Discover Exoplanets* resources developed for the exhibit — these resources, including the *Discover Exoplanets* hands-on activities and a family guide to the exhibit, will be demonstrated at the exhibit orientation workshop and webinar. Resources and ideas for programs will be available from NCIL staff at the project orientation workshop and from other sources. These 10 programs can span the 2 venues (with at least 2 happening at each individual venue).
- Actively participate in the project's Online Community by posting program descriptions and outcomes.
- Market the exhibition and programs to at least one underrepresented audience in the community.
- Libraries must provide access to the exhibition free of charge. Museums must not charge an additional fee to view this exhibition.
- Provide reports, including an exhibition condition report and a final report, to exhibition sponsors.
- Participate in exhibition evaluation as requested.
- Appoint one staff member (one at the library, and one at the museum) as the Project Director of the exhibition. The Project Director is responsible for attending the project orientation workshop, reviewing educational and support materials, and overseeing programming and marketing of the exhibition.
- Agree to all publicity requirements and restrictions, including use of required exhibition credits and/or logos on all local publicity materials, both in-print and online.
- Show that the venue has sufficient space to display the exhibition (the 600 square feet of exhibit space does NOT have to be one specific area of the venue), and can provide security for the exhibition, i.e., monitor the exhibition at least every half-hour during peak times and every hour at less busy times.
- Be responsible for the condition of the exhibition. Sites will be held responsible for damage to or loss of the exhibition when it is under their control. Minor repairs will be carried out and paid for by the project grant.
- **INSURANCE:** It is required that each host library add the exhibition to their institutional insurance coverage or purchase an insurance rider The value of the exhibition is approximately $60,000. The exhibition should be insured from ten days' before the first day of the exhibition period to ten days after the closing date.

II. Award Information

Eight public libraries and museums will be selected to host *Discover Exoplanets* between October 2018 and January 2021. Each host site will receive the following:

- The traveling exhibition for a 12-week loan period (shipping costs are paid by the project grant).
- Travel and accommodation expenses paid for attendance at the project orientation workshop for two exhibition project staff from each site pair.
- A publicity kit containing images for use in publicity and on host library websites.
- Training through periodic project webinars, and printed and online project support materials. Professional development opportunities: Libraries on the tour will have access to a *STAR_Net Online Community* during and after the *Discover Exoplanets* project. The online community will be a dynamic forum for host libraries to contact organizations and individuals for programming help, share

programming resources and program outcomes, access to a growing library of STEM activity resources, and grant opportunities.

- Technical and programming support from the *National Center for Interactive Learning*, other project partners, and the *STAR_Net Online Community*, including participation in an online discussion list for tour sites.

III. Eligibility

This exhibition tour is open to public libraries and museums in the United States and all its territories. Venues in rural areas and those serving rural populations and underserved groups are especially invited to apply. Individuals and federal entities are not eligible to apply.

IV. Application and Submission Information

Applications will be accepted for *Discover Exoplanets* between October 27 2017 and January 5, 2018. Applications must be submitted through Survey Monkey by 11:59 p.m. Mountain Time on January 5, 2018. Late or incomplete applications, and applications from ineligible institutions will not be reviewed. Applications may not be submitted by email or mail without express written approval. If your institution requires such an accommodation, please inquire with Anne Holland (aholland@spacescience.org) no later than December 1ˢᵗ.

WRITING THE PROPOSAL NARRATIVE

Before you compose the narrative part of this proposal, we strongly recommend that you read the guidelines carefully. If you do not, your proposal is unlikely to be competitive.

PROPOSAL NARRATIVE

Please describe your plans for presenting *Discover Exoplanets.* The proposal narrative consists of nine sections (described below). Please note that each section of the narrative may not exceed 400 words.

Be sure to address the following points in your narrative:

1. Describe why your library or museum would like to host this exhibition, including community interests in STEM topics, demographics, collections, or other resources or programming focus areas related to space science and the search for exoplanets. What are your prior experiences with hosting traveling exhibitions and/or offering public programs about STEM topics?

[text area]

2. What do you hope to accomplish by bringing this exhibition to the community?

[text area]

3. A major focus of the *Discover Exoplanets* project is to reach underserved audiences with STEM programming. Identify at least one principal underserved audience you will reach with programming for this exhibition and make a strong case for why you have chosen this audience and how you will reach them. A generally underserved geographic area can be considered an underserved audience.

4. Describe your general publicity plans for exhibitions.

5. Collaboration with STEM organizations and individuals with STEM expertise is very important to the success of this project. The project will provide access to some potential NASA partners to host sites, but tell us what partnerships with STEM and non-STEM organizations and individuals in your community/region will help you to make the exhibition and your programs a success. Have you worked with these organizations/individuals before?

6. Describe the programs you plan to implement to meet or to exceed the project requirements. Project requirements are: Ten programs (total, across both venues) for different age groups, including one opening event, 3 public programs for adults, three public programs for families, and three programs for out of school K-12 children (any one of these programs may be combined with the opening event.) At least 3 programs must have a strong NASA connection. At least 2 programs must utilize or develop some connection across the venues. Who will present the programs? Include names and qualifications of potential external presenters. You are required to do 10 programs total across the 2 sites, but may list more if desired.

7. Where will the exhibition be displayed in your venue? Please describe the space and its relationship to traffic flow in the venue. Does the area have wireless Internet access and at least six electrical outlets? You can also upload a picture of the space if desired (optional)

(attach jpg here)

8. Describe how you will work with educators and schools in your area and estimate how many school-age children might visit the exhibition. Note any long-term relationships you have with local educators that might prove beneficial in reaching school age children with programming.

9. Please describe your plans to partner with the Secondary Applicant. Will you do shared programs across venues? Share artifacts? Etc. Please also attach here the letter of commitment from the Secondary Applicant.

(attach pdf here)

EXHIBITION SCHEDULING PERIOD

Please complete the Exhibition Scheduling item. Each host site will have the exhibition for approximately three months (12 weeks). If you have additional information about scheduling preferences to add to your application, please include it at the end of this section under "Comments."

You must indicate a choice in all the drop down menus. (You may indicate "No Preference" for any of them.) Please note that we cannot guarantee that the exhibition will be available during one of your preferred periods. (Dates will be available on the application)

CERTIFY AUTHORIZATION

An application to host the *Discover Exoplanets* exhibition is an application for an award from the sponsor of this project (*National Center for Interactive Learning* at the Space Science Institute). The exhibition sponsors are required by law to ask applicants to identify for each application a certifying official who is authorized to submit applications for funding on behalf of the organization.

To complete this section, you must enter all of the information that is requested.

SUBMIT YOUR APPLICATION

When you are satisfied with your application, submit it through Survey Monkey. Once your application has been submitted, no further editing or other changes will be possible. *All applications must be submitted by 11:59 p.m. Mountain Time on January 5, 2018.*

Applications submitted after that time will be considered ineligible. You will receive a confirmation via e-mail of the submission of your application.

Application Review

Applications will be evaluated based on the following criteria:

- The quality of the ideas underlying the planned public programs.
- The venues' effort to contact qualified program presenters.
- The availability of appropriate exhibition space, and the library and museums ability to provide security for the exhibition.
- The location of the sites. (The selection committee would like the exhibition to visit all regions of the country.)
- The size and demographics of the community and your plan to reach one or more underserved population.
- Evidence that the site has the support of community groups and other organizations in planning for the exhibition. Selectors welcome programming collaborations among science, education, civic and other kinds of organizations. However, sending the exhibition to more than one venue in a community during the display period is prohibited.
- Evidence that the site can reach target audiences and market the exhibition and related programs to an underrepresented audience effectively. Collaboration with other organizations in the community reaching underrepresented audiences is a good strategy for accomplishing this goal.

Review process
Each application will be assessed by a review panel of librarians and representatives of other educational and cultural institutions and disciplines, in collaboration with the sponsors.

Award Administration Information

Application Deadline: January 5, 2018
Pre-Proposal Webinar: November 22, 2017

Points of Contact

If you have questions about the project or the application, contact:
Anne Holland
Community Engagement and Exhibits Manager
National Center for Interactive Learning at the Space Science Institute
1-720-974-5876
aholland@spacescience.org