Earthlings—Space Exploration Initiative open call for art works in low Earth orbit

MIT Media Lab Space Exploration Initiative is pleased to announce Earthlings, an open invitation to artists for a unique opportunity to bring their work to low Earth orbit. This opportunity is intended for artists, designers, and storytellers who provoke new imaginings of our shared planetary future and challenge the ways we engage with outer space. Selected projects will be announced in July 2019 and aim to be launched at the end of this year or early 2020.

Through the ages, artists, writers, and filmmakers have always been inspired by space. Artists’ visionary depictions of space as an environment for people have influenced the scientific and engineering feats we know so well today. How will artists continue to inspire the future of space exploration? What are the opportunities and challenges in the creation of art for space, and art depicting space and space technologies? In Earthlings, we urge artists to take the unique low Earth orbit environment to create projects that live in outer space but also inspire our life on Earth.

Earthlings (a 1.5U size unit, 100mm x 100mm x 152.4mm) will be launched into low earth orbit for about 30 days. It features a three-layer telescoping structure which creates three different “gravities”: zero gravity, lunar gravity, and Martian gravity. Each layer of the structure rotates independently. The top layer remains still in weightlessness, while the middle and bottom layers spin at different speeds to produce centripetal accelerations that mimic lunar gravity and Martian gravity, respectively. Each layer carries 4-6 pockets that can hold projects. All the proposed projects must be contained within this dimension and stay passive during the entire mission. Artists can request up to four pockets in total in any of the three layers. Further technical details and request for proposals can be found below.
Request for Proposals

Earthlings—Space Exploration Initiative open call for art works in low Earth orbit

Submit the intent by June 20, 2019, 11:59PM Eastern Standard Time

MIT Media Lab Space Exploration Initiative is pleased to announce an open call, Earthlings, to invite artists for a unique opportunity to bring their work to low Earth orbit. This opportunity is intended for artists, designers, and storytellers who provoke new imaginations of our shared planetary future and challenge the ways we engage with outer space. Selected projects will be announced in July 2019 and aim to be launched at the end of this year or early 2020.

About the Space Exploration Initiative

Space will be hackable. Space will be playful.

With humanity at the cusp of interplanetary civilization, we are actively building the technologies, tools, and human experiences of our sci-fi space future. In doing so, we build on the spirit of the Media Lab, uniting artists, scientists, engineers, and designers to build a real-life Starfleet Academy (inspired by the iconic institution from Star Trek). We are grounded in the academic excellence of MIT, while leveraging the provocative, creative, and futuristic technology expertise at the Media Lab. The Space Exploration Initiative supports 25+ research projects, regular parabolic flights, suborbital and orbital launch research deployments, and a team of 50+ students, staff, and faculty.

We are creating and deploying space technologies that envision a bold and culturally rich “new space age,” from astro-bacteria wearables, to open-access and shareable cubesat constellations, to musical instruments for our space voyages, to floating space habitats, to advanced zero-gravity 3D printing. The philosophy of “democratizing access to space exploration”—bringing moonshots and starshots into the purview of hackers and makers—courses through our work, and guides both our research platform and our extensive STEAM outreach efforts.

More info about the Space Exploration Initiative can be found here. Our commitment to democratizing access to space.
Eligibility

We welcome a broad spectrum of interdisciplinary creative thinkers and practitioners to apply. Individuals and collaborative projects may enter. A single person (21 years or older) must be responsible for committing as a project investigator, and will serve as the point person for communication and coordination. Collaborator’s work samples should reflect a history of working together. International applicants are welcome. Upon acceptance, the applicant is responsible for securing a visa to the US if any on-site visit is needed for the project; the Media Lab is not able to sponsor visas for any participants.

Equity and Inclusion

The MIT Media Lab and Space Exploration Initiative is committed to diversity as defined by gender, race, ethnicity, disability status, age, sexual orientation, immigrant status, and socioeconomic status. Projects artistically led by applicants from historically marginalized groups are encouraged to apply.

Criteria

- **Feasible**: Feasible timeline and plan for successful deployment*
- **Artistic**: Clear artistic intentions with strong execution demonstrated through work samples
- **Purposeful**: A purposeful relationship to outer space technologies and narratives
- Social urgency and potential impact
- Match between Space Exploration Initiative’s resources and the applicant’s needs

* Project team understands that the companies we have contracted with are the final arbiters of which projects are approved to fly. Ultimately, the project must meet the company's launch guidelines and pass the on-site readiness reviews, prior to launch. The Space Exploration Initiative will not be able to intervene past a certain point, if a project fails to meet these guidelines and reviews.

Resources and Commitment

The Space Exploration Initiative will provide guidance and support to help artists to refine project ideas for a successful launch. We will assemble a team of scientists and artists with deployment experience around each work.

We may require meetings with applicants to discuss their proposals and establish detailed agreements. The launch opportunity will be awarded only after definitive agreements are reached, and the timing of the project will be determined by the nature of each project. All artists will be required to execute a definitive agreement with the Space Exploration Initiative (and,
where applicable, third-party participants), which will set appropriate parameters with respect to, among other things, the scope and the duration of the project, required milestones, the involvement of third parties, intellectual property, licensing, and ownership.

Artists must commit to attend all technical meetings, submit payload documents on time*, and participate in the public sharing component after the deployment (exact dates and materials required TBD upon acceptance).

*Failure to meet a deadline may result in losing the launch acceptance slot. Failure to meet safety and integration testing criteria will result in losing the launch acceptance slot. The project may not diverge from the initially submitted concept, without prior written approval from the Space Exploration Initiative.

Technical Details

The entire Earthlings payload is a 1.5U size (100mm x 100mm x 152.4mm) and will be launched into low earth orbit for about 30 days. The pressure inside the payload will nominally be maintained as a Earth-like, sea-level atmosphere: 21% oxygen, balance nitrogen at 101.3 kPa.

Earthlings features a three-layer telescoping structure which creates three different “gravities”: zero gravity, lunar gravity, and Martian gravity. Each layer of the structure rotates independently. The top layer remains still in weightlessness, while the middle and bottom layers spin at different speeds to produce centripetal accelerations that mimic lunar gravity and Martian gravity, respectively. Each layer carries 4-6 pockets that can hold projects. Proposed project weight in each pocket shall not exceed 100 g. Artists can request up to 4 pockets in total in any of the three layers. All projects inside the pocket should be passive during the entire mission.
Each pocket is a round polycarbonate container with 7mm in diameter and 12mm in depth. All the proposed projects must be contained within this dimension. Minor design changes can be made for the shape of the pocket but are not encouraged, and will be determined by the nature of each project. The pockets can be exposed to LED lights (4000~6000K, natural white) through the transparent cover. Video recording, image capturing will be conducted throughout the mission and footage will be shared with all the participating artists. Other data such as temperature and acceleration can be requested in the proposal.

Delivery time of each project to the Space Exploration Initiative is dependent on each project. Safety and Materials Requirements:

- All biological materials must be within NASA JSC Biosafety Level 1\(^1\) category.
- Genetically modified materials are not allowed.
- Multiple levels of containment and additional testing may be required for payloads involving any liquid or materials that off-gas. Though possible, we do not encourage artists to propose projects involving fluids of any kind without existing access and experience with testing facilities for negative pressure, vibration, etc.
- We cannot source materials from countries under designations II and III in the NASA designated countries list.
- As a general rule, the experiment safety review process promotes a “design for minimum hazards” and “elimination/minimization of hazard potential” approach whenever possible.

**Submission Guidelines**

All applicants must read through the request for proposals before submission. The submission form can be found [here](#). No late applications will be accepted. For questions concerning technical difficulties with submission, please email [xxxxxxin@mit.edu](mailto:xxxxxxin@mit.edu). We will only provide feedback on project concepts to a selected group of submitted projects.

**Intent Submission Deadline: Thursday, June 20, 2019, 11:59PM Eastern Standard Time**

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\(^1\) NASA JSC Biosafety Level 1 is characterized as suitable for work involving well characterized agents not known to cause disease in healthy adult humans, and of minimal potential hazard to laboratory personnel and the environment. If you are not sure whether your project is BSL1, [this link](#) provides risk groups.