Press Release and Press Conference Announcement

Press Conference: 12 noon EDT on July 26th, 2021. By invitation only.

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Press Conference Host: Mike Wall, *Space.com*

Q&A Moderator: Faye Flam, *Bloomberg Opinion columnist,* Podcast *Follow The Science,* Fellow *Society for Professional Journalists*

Registration: https://pm1pro.zoom.us/webinar/register/WN_LAsUp9FgQb6wHDPGiAMStA

YouTube link: https://www.youtube.com/channel/UCtDWoZ5lLINstvJvALwKYXA

Facebook link: https://business.facebook.com/events/3076366245977223/

Announcing the *Galileo Project* for the Systematic Scientific Search for Evidence of Extraterrestrial Technological Artifacts

'Daring to Look Through New Telescopes'

CAMBRIDGE, Massachusetts – July 26, 2021 – The multi-institutional, international *Galileo Project* founders, research team and advisory boards, in conjunction with the Center for Astrophysics | Harvard & Smithsonian, today announce the ***Galileo Project*** (website: projects.iq.harvard.edu/galileo)**.** It is a transparent scientific project to advance a systematic experimental search for cross-validated evidence of potential astro-archeological artifacts or active technical equipment made by putative existing or extinct extraterrestrial technological civilizations (ETCs).

The goal of the *Galileo Project* is to bring the search for extraterrestrial technological signatures from accidental or anecdotal observations and legends to the mainstream of transparent, validated and systematic scientific research.

Professor Avi Loeb, head of the *Galileo Project*, explains[i]: "In 2017, the world for the first time observed an interstellar object, called *'Oumuamua,* that was briefly visiting our solar system. Based on astronomical observations, *'Oumuamua* turned out to have highly anomalous properties that defy well-understood natural explanations. We can only speculate whether *'Oumuamua* may be explained by never seen before natural explanations, or by stretching our imagination to *'Oumuamua* perhaps being an extraterrestrial technological object, similar to a very thin light-sail or communications dish, which would fit the astronomical data rather well."

Professor Loeb continues[ii]: "After the recent release of the ODNI report on Unidentified Aerial Phenomena (UAP), the scientific community needs the determination to systematically, scientifically and transparently look for potential evidence of extraterrestrial technological equipment. The impact of any discovery of extraterrestrial technology on science, our technology, and on our entire world view, would be enormous."

He concludes[iii]: "Given the recently discovered abundance of habitable-zone exoplanets, with potential for extraterrestrial life, the *Galileo Project* is dedicated to the proposition that humans can no longer ignore the possible existence of ETCs. Science should not reject potential extraterrestrial explanations because of social stigma or cultural preferences that are not conducive to the scientific method of unbiased, empirical inquiry. We now must 'dare to look through new telescopes', both literally and figuratively."

Irrespective of the possibility that the *Galileo Project* may discover additional, or even extraordinary evidence for ETCs, at a minimum the *Galileo Project* will gather rich data sets that may foster the discovery of — or better scientific explanations for — novel interstellar objects with anomalous properties, and for potential new natural phenomena, or terrestrial technology explanations for many presently inexplicable UAP[1].

Background on UAP and *'Oumuamua*

The ODNI (Office of the Director of National Intelligence) report, delivered to Congress on June 25, 2021, mentions many Unidentified Aerial Phenomena (UAP), the nature of which is unknown. The report states: "a majority of UAP were registered across multiple sensors, to include radar, infrared, electro-optical, weapon seekers and visual observation."

Four years earlier, on October 19th, 2017, astronomers discovered the first interstellar object from outside the solar system, called *'Oumuamua*. The object did not resemble any comet or asteroid observed before. It was inferred to have a flat shape and moved away from the Sun as if it were thin enough to be pushed by sunlight. Moreover, this pancake-shaped object tumbled every 8 hours and originated from the rare state of *Local Standard of Rest*, which averages over the motions of all the stars in the vicinity of the Sun.

The existing data on UAP and *'Oumuamua* are sufficiently anomalous to motivate the collection of additional data on UAP or *'Oumuamua*-like objects and to test whether such objects may be astro-archeological artifacts or active technological equipment produced by one or more putative, existing or extinct extraterrestrial civilizations (ETCs).

[1] https://www.dni.gov/files/ODNI/documents/assessments/Prelimary-Assessment-UAP-20210625.pdf

Galileo Project Scope and Limitations

The *Galileo Project* research group will aim to identify the nature of UAP and *'Oumuamua*-like interstellar objects using the standard scientific method based on a transparent analysis of open scientific data to be collected using optimized instruments.

This ground-based project is complementary to traditional SETI, in that it searches for physical objects, and not electromagnetic signals associated with extraterrestrial technological civilizations.

For the *Galileo Project* only 'known physics' explanations are in scope. 'Alternative physics' hypotheses, while interesting, are explicitly not part of the *Galileo Project*. Moreover, the *Galileo Project* will not engage in retroactive attempts to analyze existing images or radar data, or speculate on prior UAP, observations or anecdotal reports, as these are not conducive to cross-validated, evidence-based scientific explanations.

The *Galileo Project* Follows Three Major Avenues of Research:

(i) ***Obtain High-resolution, Multi-detector UAP Images, Discover their Nature***:

A picture is worth a thousand words. For example, a megapixel image of the exterior of a human-scale UAP object at a distance of a mile will allow to distinguish: "Made in Country X" from the potential alternative "Made by ETC Y" on an exoplanet in our galaxy. This goal will be accomplished by searching for UAP with a network of mid-sized, high-resolution telescopes and detector arrays with suitable cameras and computer systems, distributed in select locations. The data will be open to the public and the scientific analysis will be transparent.

We anticipate extensive Artificial Intelligence/Deep Learning (AI/DL) and algorithmic approaches to differentiate atmospheric phenomena from birds, balloons, commercial or consumer drones, and from potential technological objects of terrestrial or other origin surveying our planet, such as satellites. For the purpose of high contrast imaging, each telescope will be part of a detector array of orthogonal and complementary capabilities from radar, Doppler radar and high-resolution synthetic aperture radar to high-resolution, large camera visible range and infrared band telescopes. If an ETC is discovered to be surveying Earth using UAP, then we have to assume that the ETC has mastered passive radar, optical and infrared technologies. In such a case, our systematic study of detected UAP will be enhanced by means of high-performance, integrated multi-wavelength detector arrays.

(ii) ***Search for and In-Depth Research on 'Oumuamua-like Interstellar Objects***:

The *Galileo Project* research group also will utilize existing and future astronomical surveys, such as the future Legacy Survey of Space and Time (LSST)[2] at the Vera C. Rubin Observatory (VRO), to discover and monitor the properties of interstellar visitors to the Solar system.

We will conceptualize and design, potentially in collaboration with interested space agencies or space ventures, a launch-ready space mission to image unusual interstellar objects such as *'Oumuamua* by intercepting their trajectories on their approach to the Sun or by using ground-based survey telescopes to discover interstellar meteors.

(iii) ***Search for Potential ETC Satellites***:

Discovering potential 1 meter-scale or smaller ETC satellites that may be exploring Earth, e.g., in polar orbits a few hundred km above Earth, may become feasible with VRO in 2023 and later. If radar, optical and infrared detection avoidance technologies have been mastered by an ETC, then very sophisticated large telescopes on Earth will be required. We will design advanced algorithmic and AI/DL object recognition and fast filtering methods that the *Galileo Project* intends to deploy, initially on non-orbiting telescopes.

Historical Perspective and Naming

The reference to Italian astronomer Galileo Galilei[3] (1564-1642) was chosen in view of the possibility that the *Galileo Project* may make novel discoveries regarding ETCs. The importance of the *potential* discoveries of rigorously validated scientific evidence of extraterrestrial technology may be similar in impact on astronomy and our world view as Galileo's pioneering use of telescopes for astronomical observations were in history.

Galileo's improved design of an optical telescope allowed him to discover the four largest moons of Jupiter in 1609-1610. These Galilean moons were the first satellites found to orbit a planet other than Earth. Galileo also discovered Saturn's rings in 1610.

Both discoveries provided key evidence in favor of the model of heliocentrism[4], developed by Nicolaus Copernicus and published in 1543, which gradually displaced the

[2] https://www.lsst.org/
[3] https://en.wikipedia.org/wiki/Galileo_Galilei
[4] https://en.wikipedia.org/wiki/Copernican_heliocentrism

previous, dogmatic and incorrect geocentric model[5] of the universe. According to popular legend, after recanting under persecution his theory that the Earth moved around the Sun, Galileo allegedly muttered the rebellious phrase, "And yet it moves." Moreover, Galileo complained that some of the philosophers who opposed his discoveries had even refused to look through his telescope, e.g., to see the mountains on the Moon, or the four largest moons of Jupiter. Let us not repeat their mistake.

The *Galileo Project* Research Team and Advisory Boards

A) *Galileo Project* Research Team

The *Galileo Project* Research Team is chaired by Professor Avi Loeb of Harvard University's Department of Astronomy. The research team members are listed at the link: Research Team | The Galileo Project: "Daring to Look Through New Telescopes"

The *Galileo Project* Research Team is actively involved in the strategy development, technology selection and evaluation/testing, pilot project implementation, Phase I limited roll-out to selected sites, and Phase II medium-scale, international deployment.

Selected members of the *Galileo Project* Research Team will be available during the press conference. The *Galileo Project* has been co-founded by Avi Loeb and Frank Laukien, and it is a transparent, non-profit, multi-institutional and international project.

B) *Galileo Project* Scientific Advisory Board (SAB) and *Galileo Project* Philanthropic Advisory Board and Affiliates

See: Advisory Boards | The Galileo Project: "Daring to Look Through New Telescopes"

The *Galileo Project* has initial funding from generous donations and pledges by individuals and foundations listed on the *Galileo Project* website. Additional philanthropic, foundation or governmental funders are encouraged to join the *Galileo Project*.

The *Galileo Project* Affiliates category is open to supporters, interested observers, as well as to members of the media that wish to report on progress of the *Galileo Project.*

Follow further progress of the *Galileo Project* at:

Twitter: twitter.com/GalileoProject1

Instagram: www.instagram.com/galileoproject1/

[i] https://www.hmhbooks.com/shop/books/Extraterrestrial/9780358274551
[ii] https://lweb.cfa.harvard.edu/~loeb/Igno.pdf
[iii] https://lweb.cfa.harvard.edu/~loeb/hires.pdf

[5] https://en.wikipedia.org/wiki/Geocentric_model