

BOOKS

Harvard astrophysicist Avi Loeb looks for evidence of extraterrestrial life, attracting attention — and detractors

The author of 'Interstellar' on cosmic sleuthwork, publicity in science, and what ETs might mean for us

By [Henry Bova](#) Globe Correspondent, Updated February 6, 2024, 18 minutes ago



Harvard University professor, cosmologist, and extraterrestrial researcher Avi Loeb BRIAN DOBBS

In October 2017, astrophysicist Avi Loeb's career took an unexpected turn. Spotted from a Hawaiian telescope, [‘Oumuamua](#), the name given to the large, pancake-shaped object found in our corner of space, was the first interstellar object discovered in the

solar system, and it piqued Loeb's interest. After investigating the object's unusual properties, he published a controversial paper in [The Astrophysical Journal](#) in 2018 asserting that 'Oumuamua was not an asteroid or comet but artificial in origin, setting the astronomy world on fire and instantly elevating his profile.

Since then, the Frank B. Baird Jr. Professor of Science at Harvard University has written even more about 'Oumuamua and has fully immersed himself in the world of extraterrestrial research. He has led multiple expeditions around the world examining remnants from interstellar objects, and has kept busy scanning the sky for unidentified anomalous phenomena (UAPs) through a newly constructed observatory at Harvard. He has also published two books documenting his work in the field, "[Extraterrestrial](#)" and "[Interstellar](#)," and has an active [Medium](#) following.

Loeb's work has captured the attention and imagination of many around the world, including a playwright who reached out to him in March 2023 about a [one-man show](#) centered around his life (something Loeb hopes will debut off-Broadway as early as this year). He has also [attracted many doubters](#) — mainly his academic peers — who've labeled him as sensational and a publicity seeker.

Ahead of his [Feb. 8 book talk](#) at the Harvard Science Center for "Interstellar," the Globe caught up with Loeb to talk about his research and how he would respond to his critics.

When and why did you make the decision to start researching extraterrestrials?

In 2017, while I was chair of the astronomy department at Harvard, there was a discovery of an object from outside the solar system. It was intriguing for me even though I didn't work much in this field because a decade earlier, I wrote the first paper that forecasted how many rocks from other stars we should see nearby. We predicted that the telescope [that detected 'Oumuamua] would not find any of the size of

‘Oumuamua. When you are wrong, you can learn something new — that’s an opportunity that nature gives you.

As time went on and more data was collected on this object, it became weirder. The amount of light that was reflected from it changed by a factor of 10 as it was tumbling every eight hours, and that suggested that it has an extreme shape. And then, the object was pushed away from the sun without showing any tail that one sees for comets. So that’s how I got into the subject. I suggested [that] maybe it’s a very thin object and is being pushed by the reflection of sunlight, and nature doesn’t make such objects.

“Extraterrestrial” delves into the story of ‘Oumuamua and your research. How does “Interstellar” expand on that?

Six months after “Extraterrestrial” came out, there was a report delivered by the Director of National Intelligence Avril Haines about objects that the US government cannot identify. When this report came out, I approached NASA and proposed to do a scientific study, and they did not get back to me. And then a few funders offered me a few million dollars, so I established The Galileo Project.

The Galileo Project pursued [an expedition to find materials left by an interstellar meteorite in the Pacific Ocean], but also, we have a new observatory at Harvard University that is monitoring the sky all the time using infrared sensors, an optical camera, radio sensors, and audio sensors. As of now, we have data on more than 100,000 objects, and the fundamental question we’re trying to answer is: Are the objects we are seeing natural or human-made or something else?

The book talks about the UAPs and The Galileo Project, and it talks also about the expedition.

Is it tough for you walking the line between researching UFOs and

maintaining your credibility within academia?

No, because I follow the same approach in all cases. I don't change my colors based on the context. You collect materials, you collect data, you analyze it, and you follow the evidence.

I feel like I'm the kid in Hans Christian Andersen's tale ["The Emperor's New Clothes"]. The kid looks at the emperor and says, "there are no clothes." I was saying "Oumuamua has no cometary tail," and my colleagues are saying, "No, no, no, there is a cometary tail, it's just invisible. It's made of hydrogen or nitrogen, we just can't see it." Claims require extraordinary evidence, and it requires effort and work to find new knowledge. That's what I'm engaged in.

A critique I see come up from your peers is that you're using this research for publicity and personal gain. How would you respond to that?

The work I'm doing is getting attention, and jealousy is the strongest force in academia. There is clear evidence for what I'm saying, because when my paper about 'Oumuamua was submitted for publication, it was accepted within three days. Once the paper was accepted, suddenly there was huge interest from the public, and then you started to see all the critics trying to step on this flower that just tries to rise above the grass level. The criticism was all a response to the attention that the subject gets from the public. All I can do is do the science the best I can.

If extraterrestrial life is out there, how should we feel about that?

The way I see it is that the messiah may not arrive from Earth the way some religious people believe. It may come from an exoplanet. The idea of the Messianic Age is that there will be peace on Earth if we identify a neighbor that is far superior to [us] in terms of technologies. If we see something that is beyond us, it's a way of unifying a sense of religion with the science, and [that] could then unify people.

It could also answer questions that we don't have an answer to. My first question is: What happened before the big bang? We don't know that, they may know that. I see it as the most important scientific discovery that could ever happen.

Avi Loeb will discuss his book on Thursday, Feb. 8, at 6 p.m. at an event jointly sponsored by [Harvard Book Store](#) at the Harvard Science Center, Hall C.

Interview was edited and condensed.

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