

Issue XXVIV

STEMBoost Newsletter



Brought to you by the STEMBoost Editorial Team

December Updates!

Irene Tian, Editor

The annual STEMBoost Invitational and the 5th Annual Kennedy Science Olympiad Invitational Tournament are coming up soon!

STEMBoost members met to sort out the logistics for both tournaments. As Event Supervisors, various STEMBoost members will create tests, proctor events, and grade tests. Members will also monitor the crisis center to ensure the tournament runs smoothly.

The STEMBoost invitational will be a virtual tournament open from January 21, 2023 to January 29, 2023. The in-person tournament for the Kennedy Invitational will be held on February 11, 2023, and the virtual tournament will be open from February 5, 2023 to February 12, 2023.

Sign up here! <https://scilympiad.com/stemboost>

Thank you to everyone helping out with the tournaments!

What are Wormholes?

Angela Zhang, Staff Editor

Wormholes are a popular idea often associated with science fiction-- the ability to traverse large swaths of the universe simply by stepping in a portal of sorts into what is literally a whole new world. While this idea of real-life instant space travel appears to currently be almost impossible, physicists have discovered that it is instead possible that we could send a probe across a wormhole and send ourselves a message back.

What exactly is a wormhole? In a sense, it's the opposite of a black hole. The infinitely dense cores of black holes bend space-time as they consume matter, and conversely, wormholes would expel forces from a second mouth in a distant part of the universe. Although Einstein's theory of relativity predicts their existence, none have yet been found, and even if they were, the idea of space travel would be impossible with our current technology. The extreme gravitational force causes wormholes to be so unstable that they would quickly collapse without a sufficient amount of anti-gravity exotic matter--matter that likely doesn't exist.

However, computer models have shown it to be possible for probes sent through wormholes to send back light signals before the wormhole collapses, meaning it could be possible for us to have a glimpse into the other side of the wormhole, into the distant depths of the universe, before its collapse.

Nevertheless, it should be remembered that with us not having even found a wormhole, this discovery remains speculative, so far existing only in the mathematical world rather than the real one.

Sources Used:

<https://www.space.com/20881-wormholes.html>

<https://www.quantamagazine.org/physicists-create-a-wormhole-using-a-quantum-computer-20221130/>

<https://phys.org/news/2022-12-discuss-quantum-wormhole.html>