

Issue XXVI

# STEMBoost Newsletter



Brought to you by the STEMBoost Editorial Team

## Fun Fact:

What is the world's tallest mountain from base to peak?

## SciOly Presentations!

Irene Tian, Editor

With summer workshops long past and invitationals waiting in the future, STEMBoost turned its focus on rule presentations to start off the fall season for the Kennedy Science Olympiad team. Experienced Science Olympiad members explained rules, provided tips, and answered questions on 2022-2023 Division B Science Olympiad events.

The first round of rule presentations took place on Sunday, September 18th from 10:15 AM to 12:15 PM. These presentations were held virtually and in-person at the Cupertino Library ThinkTank and covered eight of the twenty-three Division B events: Crime Busters, Wheeled Vehicle, Write It Do It, Experimental Design, Sounds of Music, Forestry, Road Scholar, and Meteorology. These events encompassed all five categories of science listed under Science Olympiad as well as all four event types, starting the team off with a solid foundation in a diversity of Science Olympiad events.

We would like to thank the following officers in presenter order: Sunny Yao, Ishanvi Kommula, Michael Smith, Allen Li, Irene Tian, Andrew Zhang, and Anish Kashyap, as well as Eric Ju and Amol Rama for organizing the event.

All officers' titles and bios have also been updated on our officers page.



*Exploring the World of Science*

# What is Long Covid?

**Angela Zhang,**

As COVID cases begin to fall, something that's previously been more in the shadows has started to emerge: long COVID. Even after testing negative over and over for COVID, many continue to experience residual symptoms, often including extreme fatigue, brain fog, organ damage, and respiratory symptoms like a persistent cough and difficulty breathing. What causes these odd symptoms? And who's most at risk?

Theories about the cause of long COVID include organ damage from COVID infection, lingering virus particles in the body after infection, especially in the gut, and a hyperactive immune system after infection-- or a combination of all three, the most likely. As for the most at-risk populations for long COVID, individuals with more severe infections, preexisting conditions during infection, and that are unvaccinated tend to experience higher rates of long COVID.

Long COVID bears a striking resemblance to chronic fatigue syndrome, another poorly documented disease. Scientists, however, theorize that much like long COVID, chronic fatigue syndrome results from the triggering of the Epstein-Barr virus by another virus, leading some to believe that long COVID is the same as chronic fatigue syndrome; the Epstein-Barr virus has been found in some long COVID patients, leading to theories that COVID infection may be another trigger for the Epstein-Barr virus.

Until we're able to pinpoint the etiology of long COVID, however, the best treatment remains prevention. We urge that all eligible individuals get the vaccine and boosters if they haven't already, to lower their risk of catching COVID, and even if they do, getting a severe infection that may raise risk of long COVID.

Works Cited:

Garcia de Jesús, Erin. "Who Has the Highest Risk of Long Covid? It's Complicated." *Science News*, 8 Sept. 2022, <https://www.sciencenews.org/article/long-covid-epstein-barr-link-risk>.

Wadman, Meredith. "What Causes Long Covid? Here Are the Three Leading Theories." *Science*, 16 June 2022, <https://www.science.org/content/article/what-causes-long-covid-three-leading-theories>.

**Answer:**

Mauna Kea is over 10,000 meters tall compared to 8,848.86 meters for Mount Everest!