

Making a music playlist for the stars



ESA astronaut Thomas Pesquet playing a saxophone onboard the International Space Station. Copyright: ESA/NASA
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Do you enjoy listening to music? The right tune can lift your mood, be relaxing, or even help you to run faster! Could music help astronauts in space to work and rest better too?

That is exactly the question that occurred to Luis Luque Álvarez, a violin teacher. When he was a child, Luis dreamt of two things: playing violin in an orchestra, and space travel. Now, as an adult, his dreams are coming true! Luis knows that music can encourage our body to release special hormones, such as oxytocin, endorphins, serotonin and dopamine. These help us to feel good, lower stress levels, and can make us work more efficiently for longer. Living and working in space is difficult and stressful, so perhaps music could help. With this in mind, Luis began his Music for Space project.

Luis discovered that music is already a part of astronauts' lives. Mission Control plays music to space crews during the countdown to lift-off, and once in space each astronaut has their own playlist to listen to during their time off. Luis wondered if he could scientifically select the best music to reduce the stress of crew members.



Ten volunteers offered to help Luis with his Music for Space experiment. One at a time they climbed onboard a huge centrifuge, which spins people around very quickly, making them feel one and a half times heavier than normal. Centrifuges are used to help prepare astronauts for the forces they will feel during their missions. As they were being spun, half of the volunteers listened to music: Beethoven's ninth symphony, and the Planet Earth II soundtrack by Hans Zimmer, Jasha Klebe, and Jacob Shea. The other five spun with no music.



One of the test subjects having various sensors attached before boarding the centrifuge. Copyright: ESA
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Early results show that the music had a positive impact! Participants preferred music with a slow pace and constant pitch. Now Luis has a new dream. He says, "My dream would be to play tailored sets of music to the crew in deep space missions. Mission Control could pick up the playlist according to the needs of the mission, and astronauts could also make their choices according to their mood or goals."



Astronaut Chris Hadfield became famous for playing his guitar in space! Copyright: NASA/CSA
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Imagine you are on a space mission lasting many years. What would you want on your music playlist? How does the music make you feel? Ask your family and friends this question too – do they choose the same music as you, or something completely different?

Cool fact: There are currently two guitars, a keyboard, and a saxophone onboard the International Space Station!