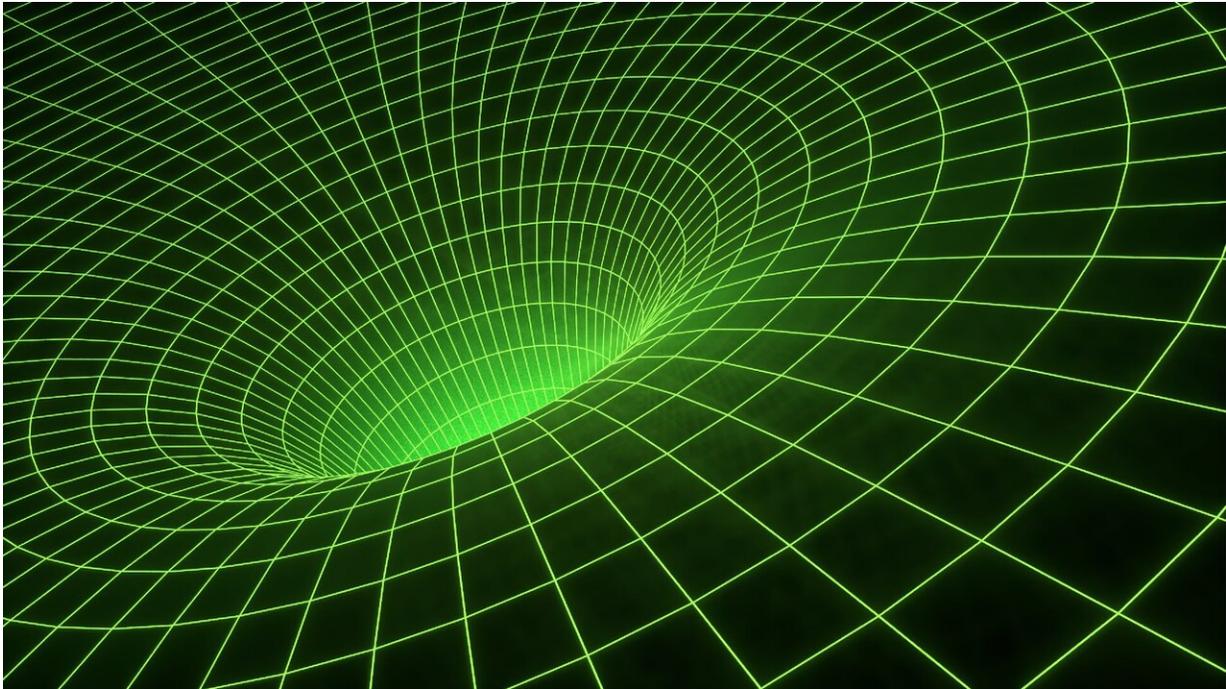


Time travel into the future is totally possible

May 14 2020, by Paul M. Sutter



Credit: CC0 Public Domain

Believe it or not, time travel is possible.

In fact, you're doing it right now. Every single second of every single day, you are advancing into your own future. You are literally moving through time, the same way you would move through space. It may seem pedantic, but it's a very important point. Movement through time is still movement, and you are reaching your own future (whether you like it or

not).

And what's even cooler is that you can skip forward in time if you feel like it.

Well, let me be clear, you need to do a little bit of engineering first.

We know through the physics of Einstein's [special theory of relativity](#) that you can trade motion in space for motion in time. If you're standing perfectly still, you're moving through the dimension of time at a particular speed (the [speed of light](#), for those of you who are curious). As soon as you start moving through space, however, you slow down your rate of moving through time.

In other words, the faster you move in [space](#), the slower you move in time.

This means that moving objects, like a clock on a rocket, run a little bit slow. One second for someone in a moving spaceship lasts a little bit longer than a second for someone staying still.

The trick is that in order for this to have any sort of noticeable impact, you have to get close to the speed of light, which is really hard to do—to give you some perspective, astronauts that orbit the Earth at tens of thousands of miles per hour are off by only a microsecond or so from our clocks on the ground.

Our fastest human spacecraft don't even crack a tenth of a percent of the speed of light. But if you could somehow spend a good amount of time hugging close to that ultimate speed limit in the universe, the slower your clock will run. You will travel through time into the future. Nothing will feel different for you, but after a couple of years' journey you would return to the Earth to find our clocks advanced by thousands or even tens

of thousands of years, depending on how fast you go.

So the future is yours, and you get to choose how quickly you reach it.

Source Universe Today

Citation: Time travel into the future is totally possible (2020, May 14) retrieved 19 September 2024 from <https://phys.org/news/2020-05-future-totally.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.