For International Space Flight Day, a Celebration of Mankind's Unlimited Potential

On April 12th 1961, Yuri Gagarin made history by being the first human to orbit the earth. In doing so, he paved the way for generations of astronauts to push the limits of exploration even further. Eight years later, Neil Armstrong set foot on the moon. His "giant leap for mankind" in turn enabled the establishment of the first international mission in space through the Apollo and Soyuz spacecrafts.

This week, the global community celebrated the International Day of Human Space Flight in a rather particular context. 2021 and 2022 are after all the years during which flying into space stopped being the monopoly of state actors. Granted, not all of us can afford a private tour of Earth's orbit like Jeff Bezos or Richard Branson.

But the fact that billions were stuck in front of their screens to witness such a feat says something about what unites us all as humans: an undeniable sense of wonder and discovery.

As modern beings, we may not remember that space exploration has fascinated philosophers and scientists across all ages of history. These ancient thinkers may not have had sophisticated tools – but they dared to dream and reflect just by gazing into the stars. After ancient civilizations in Mesopotamia, Greece, India and China could only rely on the naked eye, along came pioneers like Galilei who provided telescopic evidence that there was a wide world out there waiting to be experienced.

It is difficult to list all the political, aspirational and scientific factors that have enabled mankind to dare venture into the rather unknown territories of space.

Space flight is for one evidence that something good and virtuous can come out of heated competition. Much of the advances in space flight technology happened in the context of the Cold War, when the "space race" was just one facet of the competition between the Soviet Union and the United States. In outmaneuvering each other over and over again, the two powers inspired countries from multiple continents to send their astronauts into space as well. Today, the International Space Station stands as a testament of the multi-ethnic, transnational nature of space exploration.

For our UM6P community, the theme of space flight is also the opportunity to witness the amazing connections between our scientific vocations and the universe around us. Human leaps into space are enabled by mathematics, physics, computer science, artificial intelligence, engine propulsion or quantum dynamics. But once there, that very space teaches us new things about the science we tend to take for granted. Space exploration allows us to test the many theories developed here on Earth, making our scientific quest even richer.