

Interview Questions

Mrs. Joseph- Aerospace Engineer at Boeing

What is aerospace engineering? - Manuvel Sibichan(Interviewee)

Mrs. Joseph - Aerospace Engineering is the branch of engineering that deals with the design and testing of systems and their fluid performance. Examples of this type of engineering include analyzing the drag performance of an aircraft at various airspeeds, designing a rotor blade for a helicopter, or analyzing the structural performance of turbine vanes in a jet engine. ○ This branch of engineering is similar to Mechanical Engineering with an extra focus on fluid mechanics

Why is aerospace engineering important when you are talking about Mars?

- Manuvel Sibichan(Interviewee)

Mrs. Joseph - Aerospace Engineers are utilized in the design and testing of all spacecraft, and all technology going to Mars is no difference. Whether it is testing the vibration loading of the payload during launch, pressure checking the propulsion system of the satellite, or working at a high-level systems engineer, making sure all the pieces of the space mission are coming together, Aerospace engineers play essential roles on any space program.

In your opinion, what is the most important part of privatization and exploration is in relation to Mars and the solar system? - Manuvel Sibichan(Interviewee)

Mrs. Joseph - Privatization breeds competition, and competition breeds economic growth. NASA was a great service to the Space Race, but government entities are monopolies that spend too much money on these tasks. It will be the private sector that creates the first affordable trip to Mars using a truly creative and original solution

What are the negative and positive economical and environmental impacts for exploring Mars?

Economical Positive ? - Manuvel Sibichan(Interviewee)

Mrs. Joseph - While, in my opinion, there are few direct economic positives, there are many indirect positives, which include the development of new technologies that arise from space missions. GPS, tang, LEDs, and prosthetics all have been developed by NASA during a space program, and the economic positives of both sales and improvements on the quality of life are vast.

Economical Negative? - Manuvel Sibichan(Interviewee)

Mrs. Joseph - Unless there is a return mission for sample collection, there is little economic gain for Mars exploration. The main reasons for space exploration are for knowledge and the furthering of science.

Environmental Positive? - Manuvel Sibichan(Interviewee)

Mrs. Joseph - Since Mars has the ability to host life, the exploration of that planet is of great potential to finding extraterrestrial life. To find out that we are not alone in this Universe is of great importance to the entire species.

Environmental Negative - Manuvel Sibichan(Interviewee)

Mrs. Joseph - Mars is considered a Class 5 planet, according to NASA's Planetary Protection Division. This means that there is a possibility of life on the planet, and our spacecraft landing on Mars could bring along with it foreign bacteria. If this bacteria were to spread, it could wipe out the local organic life, similar to how the British's smallpox virus wiped out the Native Americans

Where do you think the privatization of the space program will go from here? - Manuvel Sibichan

Mrs. Joseph - From here, I believe that many very small private space companies merge to become larger and larger entities, until their size and financial backing are enough to fund space programs. Then, as time goes on and these companies learn how to build more cost effective spacecraft, less money will be given by the U.S. government. These lower costs would allow more space companies to join the market, providing further competition to drive down prices