

NASA Astronaut Joseph M. Acaba Delivered a Lecture to SPbPU Students

18 марта On March 18, 2019, NASA astronaut Joseph M. Acaba gave a lecture to Peter the Great St. Petersburg Polytechnic University students. He participated in three space missions and had three spacewalks. The astronaut visited SPbPU within the frame of the "[Space Technologies](#)" module of the [International Polytechnic Summer School](#) development.

Coordinators of the School O.G. YEMELYANOVA and D.I. KLIMOVA gave the honorable guest a tour around the university campus. After he had delivered his lecture to Polytechnic students, he gave interview to the team of SPbPU International Services. Read more about this in our today's material.



- Joe, please, tell us, was the astronaut's profession your childhood dream that came true or this was a decision of an adult man?

- This was not an easy way. In my life, I made quite a few wrong decisions. For example, in my youth, instead of enrolling to a college I worked at a metal shop. Later on, I joined the US Marine Corps. After that I joined the volunteers of the

Peace Corps, worked as a manager in the Bahamas, and then as a school teacher in the U.S.

- So how it happened that you ended up as a NASA astronaut?

- In May 2004, NASA launched an “Educator Mission Specialist” Program which I took part in. And here all my “wrong” decisions played a great role: in the metal shop I got skilled as a mechanic, at the US Marine Corps developed strategic thinking. Working at the Peace Corps I learned to cooperate with people from various countries and cultures, while working as a manager in the Bahamas I understood that I could work in a confined space. And my work at school proved that I can both learn and teach.

- How well do you remember your first mission?

- Absolutely! Our team comprised the pilot, four flight specialists, and the onboard engineer. I was a flight specialist and within the frame of that mission had two spacewalks. My task was to take pictures of the cooling radiators. The insulating coating of one of them peeled off, and the pictures helped on-the-earth specialists understand what had caused that. In my second spacewalk I had to clear out the area for getting a robotic manipulator around the ISS surface. I was fixed on the robotic manipulator controlled from the inside of the station.



- How did you get prepared for the spacewalks on the earth?

- We had tough training. On the earth, astronauts in space suits submerge into a special swimming pool. The conditions there were as close as possible to real weightlessness: the operator in the space suit does not go down or surface. The astronauts in the swimming pool rehearse the activities they will perform in the open space. At that you must understand that if an instrument slips out of an astronaut's hands in the open space it cannot be retrieved.

- For how long did your mission last? And when did you go to the next one?

- The first mission lasted for two weeks. Preparation for the next one took two years. That time, I spent at the ISS more than 120 days. One of the core goals of space missions is scientific studies and experiments. One of our projects was dedicated to forest fires. From the space you can very well see the outcomes of those.

- Are there any specific traditions shared by astronauts?

- Of course, and quite a few of those. Each culture has its own traditions. I very much like the Cosmonaut Alley in Baikonur. Each crew member plants a signed tree prior to the flight. Another tradition in Russia is that one day before the start they all watch "The White Sun of the Desert." This is a ritual that no single flight can go without. Also, before they go, the cosmonauts leave an autograph on the wall of the Baikonur Museum.

- Is that true that the acuity of vision in the space is remarkable?

- It is partly true. When you are on a low earth orbit, you can see every small detail. Another special feature of human vision in the space is that it is rather difficult to identify the form of an object because there are no half-shades. It is important to know that long duration flights can cause worsening of your vision: about 60% of all astronauts encounter this problem.

- Altogether, you have spent 306 days away from the home world. Could you please tell how quickly would you get used to staying at the ISS?

- As a whole it did not take long. It's important to understand that for a while you will be living under different regulations: for example, you cannot take a shower in the habitual sense of the word to avoid water spreading all over the spaceship; the astronauts just wet towels with water. You have to cut your nails and shave nearby a special ventilation unit inhaling little "rubbish."

- And the food, no doubt, is special?

- Absolutely. But once our team cooked a pizza; you can find a video on YouTube. We had a pizza party which was, in my opinion, no worse than on the earth. And Russian cosmonauts once cooked the Olivier Salad for the New Year. Using space

technologies, of course (laughing).

- How did you feel in the open space? Being away from your family and friends?

- I was perfectly fine in the open space: it was something unbelievable. To be far away from the family is not an easy thing, of course. But we had videoconferencing each week, and every astronaut undergoes psychological training before the flight. In addition, it seems to me that people on Earth are much more worried about us than we are.



- Your parents must be particularly worried?

- For our parents, we all remain children to be protected. My second mission coincided with my birthday. My parents came to Moscow to take part in the press-conference and sang me "Happy birthday" in live air. This was an extremely touching moment. So you see, the parents take care of you even when you are away from Earth.

- And what does an astronaut feel coming back to Earth?

- When you land, you feel weightiness in your entire body; it seems that your arms and legs weight a ton. Rehabilitation takes time, different for each person. Some

are faster, and I need 24 hours to recover. Nowadays, they have special exercisers at the ISS which help the muscles to start working faster when you get back to the earth.

- What do you think about the space tourism?

- There is no doubt, the space tourism will develop. I also believe that in near future we should be able to take flights to longer distances. New space stations and bases will appear and the space will become accessible not only to professionals but private scholars too.

- Joe, the students are delighted with your lecture: the auditorium was packed and the audience would not let you go. Tell us please, are you planning to come to Polytechnic University again?

- Of course, if only I have a chance I will be back to discuss the unbelievable world of space with your students.

- Joe, thank you for the great interview. We wish you new achievements and victories!

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