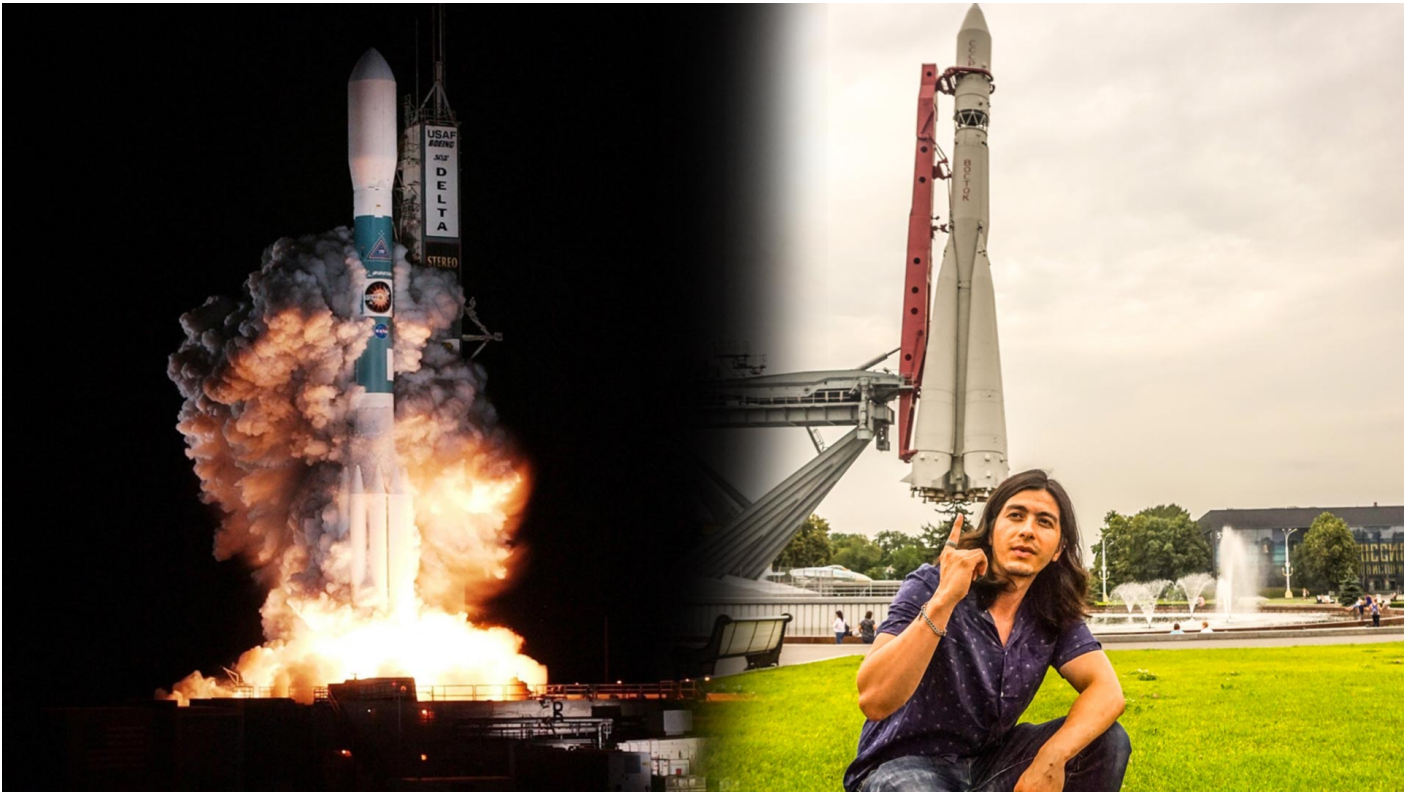


# The Mexican who wants to go to the Moon without blasting off



Photos: Courtesy of Carlos Olascoaga

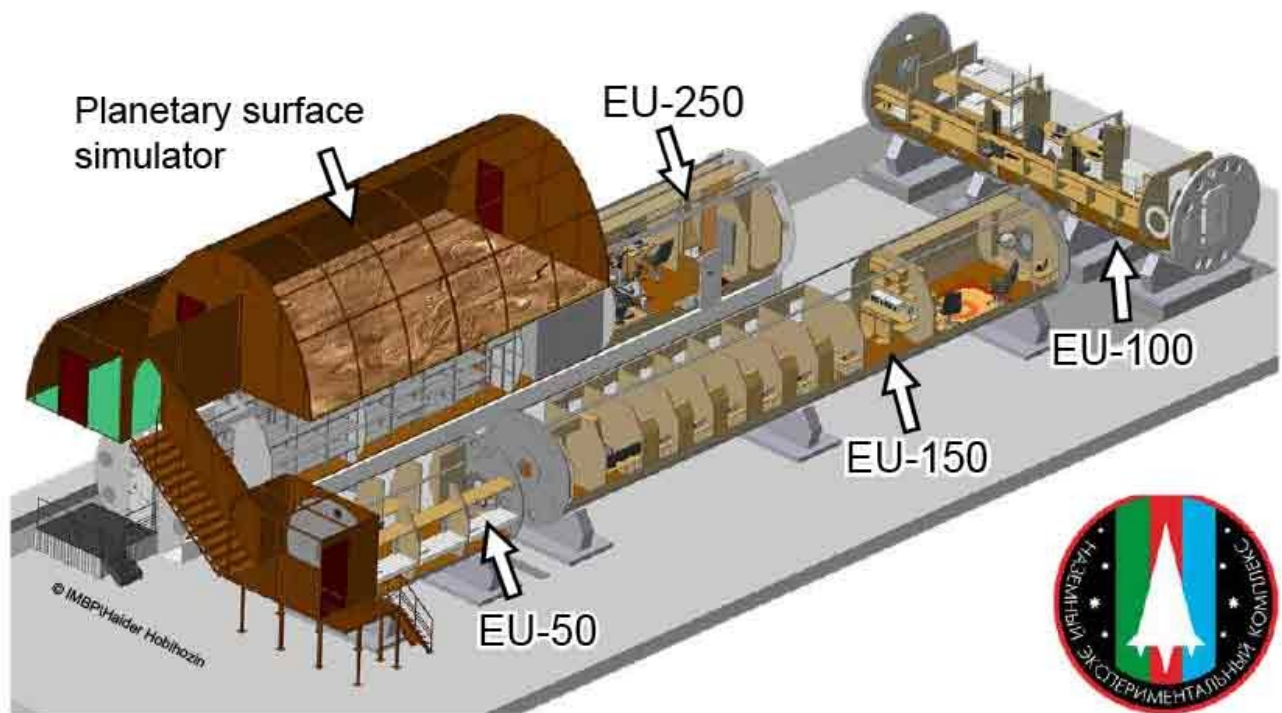
Mexican **Carlos Olascoaga** is one of the candidates to join the team of **6 people** who will spend **240 days in isolation** to simulate a **mission** on the **Moon** as part of the **NEK & SIRIUS** program from Russian space agency **Roscosmos** and American space agency **NASA**.

*“It’s an **opportunity** to test **new technologies**, such as simulating the lunar surface, virtual reality, helmets, and more,”* Olascoaga told **CONECTA**.

Carlos, 28, holds a degree in **mechatronic engineering** from **Tec de Monterrey**. He has been in Russia since 2019 studying a **master’s degree** in Aerospace Engineering at the **Moscow Aviation Institute**.

The Tec graduate said that if selected in **February 2021** for the **SIRIUS-18/19 mission** as an **analog astronaut**, the term used for someone participating in space simulations while on Earth, he will have to stay for 8 months in a **closed and pressurized habitat**.

This project offers unique aspects for studying the body and mind, which will be critical to meeting **NASA’s** long-term goals of sending multicultural crews to the **Moon** and finally to the planet **Mars**.



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### What will the space mission be like?

Carlos said that he was invited to this project because he had met **astronauts, such as Russian Anna Yuryevna Kikina** and American **Anna Fisher**, after attending aeronautical conferences in Russia.

*“My master’s degree is focused on **rocket systems**. At one of these conferences, I met a **Russian astronaut** (Anastasia Antonova) who did the experiment, and some time later they invited me,”* Carlos said.

This project will study the **physiology, psychology, and dynamics** of a **space exploration crew** during **isolation, confinement, and remote conditions** in a **multimodule facility**.



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The **NEK station**, where the experiment will take place, contains **5 modules**. One of them is for **virtually simulating a landing on Mars**.

Another is for conducting **medical and psychological experiments** on the participants, and yet another is for where crew members **live, eat, and work**.

The fourth module is for **storing food**, as well as for housing the **greenhouse**, a gym, and food freezers.

The fifth module is a **simulation** of the **terrain on Mars** where analog astronauts need to wear spacesuits as if they were on the red planet.

The selection process included **interviews**, **résumé reviews**, and sought expertise in **engineering, medicine**, or as a **pilot**.

*“They do a medical exam in which they evaluate your eyesight and your body condition. The goal is to select a team of **6 people: 3 men and 3 women**,”* said Olascoaga, who is one of the **male finalists**.

*“They invite a select group of people, but as far as I know, there are five other men from **Russia, India, and the United States**.”*

He added that the team should consist of **engineers, doctors, and pilots**, and the project is planned to begin on **June 3, 2021**.

### **How they prepare for simulating a lunar colony**

Carlos said that there are different types of **tests** carried out on Earth in preparation for off-planet **voyages** and **colonies**.

The **NEK & SIRIUS** mission, located at the **Institute of Biomedical Problems** at the **Russian Academy of Sciences** in Moscow, began in 2017 with a 17-day trial, followed by another 4-month stage conducted in 2019.

The crew will consume **dehydrated food**, commonly used by **astronauts**, along with fresh food as they do on the **International Space Station**.

Olascoaga also said that **communication** with the outside world will be **minimal** and that they will perform simulations of **spacewalks** like the ones astronauts take.

*“You wonder what’s going to happen. I hope nothing bad happens. In Moscow, I had to be locked in a dorm room (because of the pandemic). So, I sort of feel like I’ve already trained.*

*“In any case, it’s not the same to physically see people as it is to be far away from them,”* he said.



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### **The challenges of being isolated for 8 months**

Carlos' first challenge is the **multicultural** issue and dealing with being in isolation with people from **different countries**.

Another challenge of the project is that of **biomedical risks** associated with long-term space missions.

The Mexican explained that **bodily reactions** will be studied, so there are doctors checking brain signals, breathing, and vision, among other things.

*“These are activities for monitoring your body. They’re actually experiments they do on the International Space Station.”*

Carlos mentioned that if selected, he will take a **guitar** and **books** with him to avoid getting bored, as they won’t have **internet access**.

<https://www.instagram.com/p/CDZDcquCVjH/>

## **His career from FIRST to studying in Russia**

Carlos became interested in engineering after participating in a high school youth **robotics** event called the **FIRST Robotics Competition**, a **robotics tournament conceived as an aspirational sport** to get **children and young people interested in science**.

*“If a child asked me how to follow in my footsteps, I would tell them that there’s a lot to learn from failure. Don’t give up the first time. It’s possible to do big things.”*

This experience led him to choose to study mechatronic engineering, which he combined with his passion for **music**, leading him to do a summer course in **music production** in Los Angeles, California.

*“In that summer of 2014, I met some [SpaceX](#) engineers who were staying at the same place we (Tec students) were staying.*

*“They told me they were working there. I hadn’t heard of **Elon Musk** yet, but it stuck with me, and I thought, ‘I want to do something like that,’” he recalled.*

The young man finished his degree in **2016** and went on to work for **Ford** as a **Product and Design Engineer**, where he worked on models such as the F-150 and the electric **Mustang**.

In addition to engineering and music, Carlos said that he’s always loved **soccer** and joined the **PrepaTec** school team in **Toluca**, where he lived.

As an engineer at Ford, Carlos traveled to the **Russia 2018 World Cup**, where he met a young woman with whom he started a relationship, so he found a way to study a **master’s degree in aerospace engineering there**.

*“Then I took the admissions exam (at the [Moscow Aviation Institute](#)) and finally was accepted. It was difficult to be a student again in another country, and I didn’t know much Russian.”*



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### **A future in space with a Mexican presence**

If accepted into the **SIRIUS** project, Carlos will be the second Mexican to do so after **Carmen Félix**, also a **graduate** of **Tec de Monterrey**, who participated in a similar simulation project in 2016.

Carmen was the **first Mexican** to be an analog astronaut at the **Mars Desert Research Station**, also organized by **NASA**.

Meanwhile, the **SIRIUS** project is in its third stage, in which isolation will begin in June of 2021.

Carlos says he will also try to continue **preparing** at the **Gagarin Cosmonaut Training Center** in Russia.

*“They train with **centrifugal force** there (to simulate the journey to space). It’d be amazing for me to get into something like that,”* he said.

<https://www.facebook.com/imbp.ru/posts/3602662453123241>

One of Olascoaga's dreams is to **build rockets** in **Mexico**, and his master's thesis is focused on that area.

The engineer said that the next step for the Mexican space program is to have a **launch** site like in Russia and the United States.

*“Our **Mexican Space Agency** is **10 years old**. No one knows what they’re going to do or if there are any projects, but I think it’s a **good idea** to teach these things to kids or the next generations.*

*“If a child asked me how they could follow in my footsteps, I would tell them that there’s a lot you can learn from failure. **Don’t give up** the first time. It’s possible to do big things,”* he concluded.

**YOU’LL DEFINITELY WANT TO READ:**

<https://tec.mx/en/news/queretaro/education/orbit-young-people-participate-space-innovation-competition>