

Success in international space competition for creating a smart suit



The female student from the Tec's Querétaro campus made it to second place in the competition held in Houston, Texas.

19/01/2026

Alejandra Cervantes

SEJUVE

For helping her team design a **smart suit** to tackle **medical emergencies** in space, **Mechanical Engineering** student **Paulina Cervantes Jácome** from **Tec de Monterrey** obtained second place in the [International Air and Space Program \(IASP\)](#), an initiative developed in collaboration with **AEXA and NASA**.

The student was on the [State of Querétaro](#) delegation that took part in the international program's third edition, where she presented the **Hope** project developed in collaboration with **four other students**.

Their proposal seeks to reduce the **impact of delayed space communications** through the use of **artificial intelligence and holographic technology**, thereby

improving the response to critical medical situations during **off-Earth missions**.

“We developed a smart suit with haptic sensors capable of assisting during medical emergencies in space”, explained Paulina.

Paulina during her visit to NASA’s Space Center in Houston, Texas. Photo: Paulina Cervantes



From challenge to solution

During their stay, the program challenge consisted of **optimizing** communications between **space** and **Earth**, bearing in mind that there could be delays of up to **40 minutes** in **transmitting information**. The goal was to **streamline** these **processes** without jeopardizing the mission or the astronaut’s safety.

Based on this scenario, the team decided to **narrow the problem down** to focus on one crucial aspect of missions: **astronauts’ physical and mental health**.

“We had a lot of ideas and couldn’t make up our minds; we wanted to tackle so many aspects”, said the student.

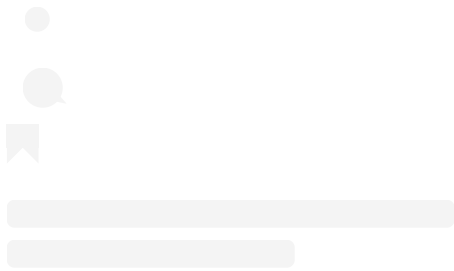
That’s how “*Hope*” was born, a **smart suit** consisting of **two-way haptic sensors** connected to holographic visors that enables the **simulation** of **human contact** and the provision of **remote medical treatment**. This technology also seeks to reduce the **effects** of prolonged **isolation** in space.

In addition to this suit’s **applications** for **space missions**, the team also sees it being **implemented** on **Earth** in areas such as physiotherapy, medicine, or even sports.



[View this post on Instagram](#)





The event was held from **November 10 to 14, 2025**, gathering **65 participants** from different **countries** such as Ecuador, El Salvador, Mexico, and even Madagascar to immerse them in different **activities** focused on the **aerospace sector**.

These included the student having the opportunity to fly a **small plane at 8,000 feet**, practice **indoor parachuting**, and experience a simulation of **zero gravity under water**.

"I got the chance to learn more about how mission control works and the different roles involved beyond the astronauts", she explained.



Students from the Tec in Querétaro accompanied by Pascual Alcocer, General Director of Querétaro campus. Photo: SEJUVE

Her journey to the program

To compete in the **IASP**, Cervantes had to meet several **requirements**, including having a valid visa, **mastery** of **English**, and **passing** the **AEXA interview**, which assessed her knowledge of NASA's history, space projects, and current initiatives.

In parallel with this process, she also took part in a **state program** called [***"Contigo, Querétaro Digital te Lleva al Espacio"***](#) (Digital Querétaro Takes You into Space), which awarded her a **government grant**. This involved **her writing** an **essay** on the **colonization of the moon and Mars** and how this effort could serve as a model for fostering **internationalization** on **Earth**.

"It was a really interesting experience. We went to Nassau Bay, where the NASA astronauts and employees live, while the NASA facilities were just across the street", she remarked.

Paulina was **chosen** along with **34 other participants** to **receive** several **kits** from **SEJUVE** (Querétaro's Secretariat of Youth), which were useful during their trip to Houston.

"We developed a smart suit with motion and pressure sensors that was capable of tackling medical emergencies in space"

Creating, trying, and achieving

The student highlights that the [**Tec**](#) provided her with the **tool** of **adaptability**, which was crucial. She mentions that one of her biggest complaints about the program was a shortage of time to work. However, thanks to the [**TEC21 model**](#), she was able to **perform** well in high-pressure situations, managing to find **practical solutions quickly**.

“College has enabled me to develop skills such as teamwork, camaraderie, and leadership; it prepared me to speak in public, a skill which made it easier to for me to give the final presentation”, she added.

Finally, Paulina urged readers to **get out of their comfort zones** to follow their dreams, regardless of how impossible they may seem. *“I did a lot of things for the first time. One thing I’ve discovered is how to let go of my fears and learn as much as I can from situations”, she emphasized.*

She reminded them that **learning goes beyond classrooms** and encouraged them to **put their fears behind them** and take a gamble on attempting whatever they are passionate about.

“For me, entering the IASP was something very different. However, winning second place this year was really impressive”, she concluded.

YOU’LL SURELY WANT TO READ:

