

Mexican woman among elite in international astronomy competition



Bárbara Hernández, a student at PrepaTec Cumbres, was ranked in the top 3% of the competition's participants.

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Bárbara Hernández

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Bárbara Hernández has excelled in the **International Astronomy and Astrophysics Competition (IAAC)** by successfully solving problems **on planetary distances and stellar luminosity**.

The **PrepaTec Cumbres** student achieved the highest score for Mexico in the Junior category and was ranked in the top 3% of participants globally.

Bárbara scored 32 out of 40 points in the final round of the competition and was awarded a **Silver Honordistinction** for her performance.

“When they told me I’d won first place for Mexico, I was even more excited because I hadn’t expected to make it that far,” she shared.

Currently in her fifth semester, the young woman decided to participate due to her passion for mechanical and **aerospace engineering**.

Bárbara Hernández, a student at PrepaTec Cumbres, was ranked in the top 3% of the competition’s participants globally. Photo: Courtesy of Bárbara Hernández



Her journey to the final

Hernández spent nearly five months practicing with exercises from previous years, as well as studying topics she had not yet covered in her **physics** classes.

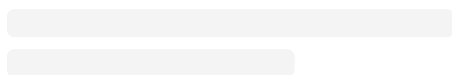
“I did have some prior knowledge, maybe somewhere between basic and intermediate, but I still had to watch tutorials on how to use the formulas or how certain aspects of space functioned,” she explained.

Organized by German educational committee **Edu.Harbour**, the **IAAC** is an online competition that assesses knowledge of **astronomy, physics, and mathematics** through theoretical problems.

The competition also aims to foster **scientific and analytical thinking** and problem-solving skills among students.



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Bárbara had to get through **three stages: the qualification round, the pre-final round, and the final round.**

In the first round, she solved astrophysics problems related to calculating distances between **planets and galaxies.**

“That was the hardest part because there were so many large numbers, exponents, and decimals. That could be really confusing if you didn’t have a calculator,” she explained.

For the subsequent rounds, participants had to analyze a **scientific research paper** ahead of time. Bárbara was assigned topics on planetary volume and stellar luminosity.

“I was even more excited because I didn’t think I’d make it this far.”

The final, held on June 30, consisted of a **30-question exam** combining both open-ended and multiple-choice questions **lasting approximately 40 minutes.**

According to Bárbara, the time pressure proved to be one of her greatest challenges.

“The final was more difficult for me because we had a time limit for each question, leaving us no time to check our answers.

The multiple-choice questions were simpler; but the open-ended ones were a bit more difficult because they took up more time,” she said.

The student has completed various academic stays, such as at Johns Hopkins University. Photo: Courtesy of Bárbara Hernández



From motor racing to space

Barbara's interest in engineering began in high school, though it wasn't initially down to her passion for space.

At first, she considered studying architecture or finance, but her passion for automobiles, particularly **Formula 1**, steered her toward mechanical engineering.

"That was what inspired me most to study mechanical engineering. Ever since then, I've been focused on pursuing that dream.

But I like space even more, and I'd like to go there someday, so I've also been considering aerospace engineering," she said.

Bárbara has participated in various international academic experiences.

She has attended programs at **Johns Hopkins University** and at the **University of Cambridge** this summer, where she submitted one of the stages of the **astronomy** competition.

Looking ahead, she is interested in exploring two career paths: working as a **Formula 1** engineer or joining the European aerospace sector.

“On a personal level, it means a lot because I’m really interested in aerospace engineering, and I feel that this recognition will help me greatly in the future,” she said.

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