

These women are the law: 4 female referees from the FIRST tournament



Photos: Ricardo Treviño

Just like the contestants for the **Monterrey 2020 [FIRST Robotics Competition](#)**, the four women on the team of referees were also “padawans” of the **robotics competition** when they were students at **PrepaTec**.

Currently, two of them, **Alba Mendoza** and **Elizabeth Berber**, have graduated with degrees from the Santa Fe campus and the Mexico City campus, while **Bárbara García** and **Clara Gutiérrez** are students at the Tec’s Monterrey campus.

56 percent of FIRST participants were women at this year’s robotics competition held in Monterrey, which was also reflected in the team of 7 referees led by head referee **Ricardo Delfín**.

*“I’m glad there are even more **girls interested in this project**,”* said Elizabeth to CONECTA. She’s been volunteering for FIRST for more than 6 years as a referee in the FRC and **FTC** categories.

All the female referees, who are now volunteers, remembered how they became interested in **robotics** several years ago and that it was because of FIRST that they decided to study degrees in engineering.



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CONECTA presents you with the 4 female referees who made sure the teams respected the rules at the Monterrey 2020 FIRST Robotics Competition:

FIRST MADE HER PASSIONATE ABOUT TECHNOLOGY

For **Alba Mendoza** (24), getting onto the **3933 Taman Keet** team at **PrepaTec's Santa Fe campus** as a mechanic opened the door to understanding how to use technology to solve real-world problems.

Because of this interest, she ended up completing a degree in **Mechatronic Engineering** at the Tec's Santa Fe campus with a double Master's in Intelligent Systems and Robotics from the **University of Essex** in the UK.

Nowadays, Alba works for **AT&T** in Mexico City, in a network equipment installation area, where she applies all of her engineering knowledge.

"The truth is that all the technical background from FIRST has been a huge help. **FIRST helped me to open up the world**, to learn how technology works in the world," she said.



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SHE DEVELOPED STEM SKILLS AT FIRST

It was at FIRST that **Bárbara García**, who's studying her second semester in **Data Science and Mathematics Engineering** at the Tec's Monterrey Campus, realized that **STEM** skills were her thing.

Science, Technology, Engineering, and Mathematics are the part of Bárbara's education that she values most in her professional development, as she wants to take up engineering with a focus on sustainability.

Besides that, FIRST also taught her leadership, as she was team captain of **6017 Cyberius** at PrepaTec's Santa Catarina campus a year ago and has only been a referee for one year.

"When I got into FIRST, I realized that **STEM** is a really complete area. That's why I decided to study for a degree in **Data Science and Mathematics Engineering**. FIRST taught me to love **STEM**, and I believe you can use that knowledge to change the world," she said.



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THE FIRST PHILOSOPHY GOT HER INTO MICROSOFT

Teamwork, knowing that you have to grow with support from your colleagues, and FIRST's philosophy of **gracious professionalism** are what have guided **Clara Gutiérrez**, who's studying for a degree in **Mechatronic Engineering**.

Although she's still taking her final semester at the Monterrey campus, Clara has signed an agreement with **Microsoft** to work as a **software engineer**, focusing on the front end of projects such as **Power Apps**.

"I was never a programmer at FIRST, but what it did teach me was everything to do with **teamwork**, **thinking**, **creativity**, all of which you keep using as a professional in the area you choose," emphasizes this student.

Clara has been going to FIRST for 7 years. For her first two years, she was on the **4635 Botbusters** team, when she was studying at PrepaTec Cumbres. After that, she continued as a mentor, and she's been a referee for two and a half years.



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FIRST MADE HER DECIDE TO STUDY ENGINEERING; NOW SHE HELPS SAVE LIVES

Part of the work done by the team in which **Elizabeth Berber** works at **Johnson & Johnson** involves making a tool for physicians who treat hospital patients with heart conditions.

“Right now, I’m in a franchise that helps cure people’s heart disease for life. I believe that this sense of responsibility was largely thanks to FIRST,” she said.

She graduated with a degree in **Biomedical Engineering** from the Mexico City campus and studied at PrepaTec Metepec, where she was on the **3158 Tecbot** team.

“FIRST helped me choose my career. I’ve always liked trying to do something to meet a goal and I wanted to do something to help people. We use a device for making a **3D map of the heart** for doctors so that they can burn tissue to correct problems,” she adds.



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THEY CELEBRATE THAT FIRST IS FOR EVERYONE

Unlike when she was a programmer and then an electrician on the Tecbot team, Elizabeth now sees **a lot of women excited to take part in FIRST** and this is something she like to see.

“I’ve always been really pleased to see girls on the court. You really try to talk to them so that they’re not so scared, **so that they see it’s somewhere they have a right to be.**

“They should believe it and see that this place is for them as well, so that they realize there are lots of opportunities out there too. As girls, we need them to earn those opportunities and take their places,” she adds.

Ricardo Delfín, head referee of the **Monterrey 2020 FIRST Robotics Competition**, said that this is the first year he’s had a team in which the majority are women: 4 out of 7, including himself.

“I think it’s great that more women are becoming interested in robotics. We hope to see many more people here so that they have excellent careers in the future,” said the referee, who’s a **production engineer at Facebook.**



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“I think women have an important role to play. One thing FIRST does is include you. Many women are becoming more involved. There **are even all-women teams**, and I think it’s really good to see so many young women empowering themselves,” said Alba.

For Clara, FIRST is a means for even more women to get interested having careers in engineering.

“There were hardly any girls when I started. I’m really pleased to see there are so many more now,” she said.

“I’m really pleased to see women getting more involved, as we are just as capable of taking part in this project and similar ones,” concluded Bárbara.

This year, **56 percent of those taking part** in the regional rounds of the FIRST Robotics Competition in Mexico are women.

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