# SisterSTEAM: A Comprehensive Program to Foster School Persistence and Employability of Young Women in Science, Technology Engineering, and Mathematics (STEM)

## Abstract

Women's representation in Science, Technology, Engineering, and Mathematics (STEM) remains significantly low due to structural barriers, gender biases, and socio-economic inequalities. Worldwide, women represent only 30% of STEM professionals. In Mexico, the participation of women on the decision-making committees of the National System of Researchers (SNI) is only 7%, 14%, and 21%, in the areas of engineering, technology, physical and mathematical sciences, and agricultural, earth, and biotechnology sciences, respectively.

SisterSTEAM aims to create a support network (sisterhood) for female students and graduates in the STEM field to combat school dropout rates (SDG-4), eradicate the gender gap in this field (SDG-5), enhance their employability (SDG-8, SDG-17), and, consequently, contribute to the region's economic development and the transition to a knowledge-based economy (SDG-9).

SisterSTEAM consists of a comprehensive program focused on emphasizing soft skills for STEAM and education on female health, as well as mentorship, networking, and community engagement for young women, particularly those from historically underrepresented communities.

The first cohort consisted of 30 young women (ages between 15-29) pursuing a STEM career, and primarily based in Merida, Yucatan although some of them were in different states along Mexico. We focused on historically underrepresented groups: first-generation low income college students, individuals with disabilities, LGBTQIA+ community members, and immigrants, to ensure equitable access to academic and professional opportunities. Data was collected through pre- and post-training surveys, participant interviews, and performance evaluations

93.3% of participants graduated.
96.67% stated they felt more capable of facing life.
96.67% expressed feeling more capable of planning for their future.
96.67% stated they felt more prepared for employment.

SisterSTEAM has proven to be an innovative and viable program that addresses a current social problem. Its intervention model is scalable, and it is planned to do it in Mexico and LATAM.

## Biography

Diana Citlali Ávila Padilla is the co-founder of Fundación Quiu, an NGO dedicated to science and culture outreach, and SisterSTEAM, a network that empowers women in Science, Technology, Engineering and Mathematics (STEM). With a background in Physics and Mathematics, she has done research internships at Harvard, Stanford, Caltech, and the Santa Fe Institute. SisterSTEAM was supported in its first edition by the Aspire Institute,

founded at Harvard University, as well as Fondazione AVSI and the European Union, and its impact led her to be recognized as one of the 25 Women in Science 2025 in LATAM by 3M.