



# Case 2: Girls4STEM Valencia, Spain

Promoting STEM vocations through visibility, community, and role models

## Context:

Girls4STEM is an outreach program run by the University of Valencia to address the underrepresentation of women in STEM fields and increase interest in STEM careers. The initiative targets pre-university students (primary from high school and vocational training) to promote STEM vocations among girls.

## THINKING Question

Please consider: *What may cause barriers to STEM for young people before any STEM activity even begins?*

In different contexts, young people, especially girls can not consider STEM pathways due to diversified barriers, including among others:

- not knowing what real STEM jobs involve.
- parents unintentionally reinforcing traditional career expectations.
- teachers in their environment feeling unprepared to counter stereotypes.
- students lacking relatable role models in STEM.



Check more at: [4equality.erasmus.site](https://4equality.erasmus.site)

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The Girls4STEM recognizes that stereotypes, lack of visibility of women in STEM, and low awareness of everyday STEM careers are major barriers.

What they do to address it?

## A. Family Talks

Students from pre-university schools make video-biographies of female STEM professionals.

These video biographies are then shown in “Girls4STEM Family Talks” held in a relaxed, public setting (e.g., the university’s botanical garden), where families, students, and the STEM experts meet.

The goal is twofold: make STEM careers more visible and create female role models for young students.



### THINKING Question

Please consider: Why include families in STEM outreach?

Families play a key role in shaping young people’s mindsets and career decisions, so including them is essential. Consider that:

- families are major influencers of career choices,
- seeing real women in STEM helps parents challenge their own stereotypes,
- warm, community events reduce anxiety and create positive associations
- informal, supportive settings can help families and young people openly address differences in expectations.



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## B. Professional Talks

STEM experts (mostly women) give dynamic, entertaining public talks for a general audience, including students, families, and teachers. These talks cover what working in STEM is really like, highlighting both achievements and daily challenges.

### THINKING Question

Please consider: How does hearing “a day in my life” differ from formal career guidance?

Real stories, bringing real perspectives and delivered by authentic STEM professionals bring added value in multiple ways. Among others:

- It makes STEM relatable rather than abstract.
- Students learn real pathways, mistakes, and growth stories.
- Personal storytelling builds identity connection.



## C. Teacher Training Seminars

The project includes Initial Training Seminars for pre-university teachers. In these 2-hour sessions, teachers learn about gender equality in STEM and how to support students’ STEM interests. Participation from teachers is often certified, which helps motivate school engagement.

## D. Complementary Activities, Ongoing Participation and Recognition

Pre-university students create more than just video biographies: they engage with STEM experts, reflect on their stories, and contribute to a public narrative of women in STEM.

More, the project encourages sustainability of its impact by involving schools, families, and regional educational entities.

## Why this approach works?

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- **Visible Role Models:** Showcasing real female STEM professionals helps break stereotypes and makes STEM feel more accessible.
- **Inclusive Engagement:** By involving families, students, and teachers, the project addresses multiple influences on career choices.
- **Boosting Self-Efficacy:** When young students see people like them working in STEM, their belief in their own potential grows.
- **Changing Perceptions:** Through public talks and storytelling, Girls4STEM challenges misperceptions about what a “STEM person” looks like, contributing to stereotype change.
- **Continues Model:** Training teachers ensures that awareness and support for STEM vocations continues beyond one-off events.



## How do we know the Girls4STEM Model works?

While the project was only kicked off in 2019 and was interrupted by recent pandemics, it translated to local impact:

- involved many pre-university students across primary, secondary, and vocational education exposing them and their families to STEM opportunities.
- has built a network of STEM experts (over 100 registered) who act as role models.
- many engaged families and students report a better understanding of STEM fields and more interest in them.
- short-term research results suggest improvements in self-perception and self-efficacy among young students exposed to the program.

# How to Apply the Girls4STEM Model in Your Context

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## I. Build a Local STEM Role-Model Network

Young people can't aspire to careers they don't see. Building a network of local women in STEM provides students with approachable, relatable examples of real career paths. Seeing professionals with different backgrounds and stories helps girls challenge stereotypes and picture themselves in these roles.



### What should you do:

- Identify women in STEM from universities, companies, startups, or public institutions.
- Invite them for brief interviews, school visits, or online discussions.
- Support students in creating short video or written biographies highlighting both successes and challenges.
- Share these stories at events or online platforms.

### To optimise impact:

- Include early-career professionals as well as senior experts to show diverse pathways.
- Provide clear guidance to role models so they feel welcomed and supported.
- Start with a small group. Even two or three role models can create visible change.

## II. Organise Family-Oriented STEM Events

Families strongly influence young people's education and career decisions. Bringing them into the conversation helps demystify STEM, build trust, and reduce stereotypes. Informal, friendly events allow parents to see real women in STEM and understand the opportunities available.

### What should you do:

- Host "Family STEM Days" in accessible venues such as school courtyards, parks, or libraries.
- Present student-made biographies and invite the featured role models.
- Facilitate relaxed conversations and Q&A sessions with families.
- Highlight how STEM connects to everyday life and future opportunities.

### To optimise impact:

- Prioritise welcoming, low-pressure environments over formal presentations.
- Schedule events at times convenient for families (evenings or weekends).
- Encourage conversations between families and STEM professionals, not just passive listening.



## III. Run Public / Professional Talks

Public talks introduce young people to the reality of STEM careers through storytelling. Hearing "a day in my life" from a woman in STEM makes the field feel real, relatable, and achievable. These talks broaden students' understanding and spark curiosity.

## What should you do:

- Invite women in STEM to speak about their daily work, decisions, and challenges.
- Keep sessions interactive and story-driven, not overly technical.
- Open the talks to students, families, educators, and community members.
- Promote the events widely to increase visibility.



## To optimise impact:



- Choose speakers who communicate authentically and connect with young audiences.
- Encourage sharing personal journeys, including obstacles and turning points.
- Provide time for informal conversation — it deepens impact.

## IV. Train Educators to Support Girls in STEM

Teachers shape students' confidence daily. When educators understand gender bias and have strategies for inclusive teaching, they can create supportive classroom environments that actively encourage girls to explore STEM.

### What should you do:

- Offer workshops on stereotype awareness, inclusive language, and how to foster self-efficacy.
- Provide practical tools: checklists, scripts, examples of supportive feedback.
- Include recognition (certificates or CPD credits) to encourage participation.
- Integrate role-model stories into everyday teaching.

## To optimise impact:

- Educators benefit most from concrete techniques, not just theory.
- Encourage reflection on small classroom habits (e.g., who gets technical tasks).
- Provide materials that teachers can use immediately.

## V. Grow Student Participation Through Storytelling and Creation

When students create content — videos, interviews, posters, they engage deeply with STEM and build confidence in their ability to communicate and explore new fields. Storytelling makes STEM human and helps students form positive identity connections.

### What should you do:

- Invite students to produce biographies or interviews of local STEM professionals.
- Display their work publicly in assemblies, hallways, websites, or community centres.
- Support follow-up interactions with the professionals they featured.
- Encourage reflection on what they learned and how it changed their perceptions.



## To optimise impact:

- Spotlight student work to build pride and motivation.
- Keep production simple. Authenticity matters more than perfection.
- Use templates to support students who are new to storytelling.

## VI. Evaluate, Celebrate & Sustain the Initiative

Long-term change requires ongoing reflection, celebration, and adaptation. Evaluating what works helps refine the programme each year, while recognition builds momentum and community ownership.

### What should you do:

- Gather feedback from students, families, educators, and STEM role models.
- Track changes in interest, confidence, and participation in STEM clubs or courses.
- Celebrate achievements through exhibitions, certificates, or public events.
- Adjust activities based on lessons learned and keep expanding the network.



### To optimise impact:

- Use simple tools (surveys, quotes, participation numbers) to measure impact.
- Make successes visible. This reinforces community support.
- Build a routine cadence (annual or biannual) for repeating and improving the programme.

### Remember :

- By combining role models, family engagement, teacher training, storytelling, and sustained visibility, educators and youth workers can successfully adapt the Girls4STEM model to their local context.
- Small initiatives, when consistent and community-driven, can significantly strengthen girls' interest, confidence, and identity in STEM pathways.