



I Congresso Internacional Mulheres em STEAM

BREAKING BARRIERS: WOMEN IN SCIENCE (WIS) PROGRAM

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Abstract: Gender inequality is present in the scientific community mainly in the STEAM areas, where women believe they have no potential for success. The Women in Science Program aims to increase female representation and to reduce academic inequalities.

Key-words. Women; STEAM; University

1. INTRODUCTION

Gender inequality is an important topic to be discussed, especially in Universities and particularly in Science, Technology, Engineering, and Mathematics (STEAM) areas, where this effect is pronounced. According to Sassler *et al* (2017, 192-208), this inequality occurs due to the low female occupation in these areas, a phenomenon known as leaking pipeline, which refers to the fact that, globally, there is a decline in the permanence of graduate women in postgraduate courses and in technical environments. Even though women represent half of the quota of researchers in Brazil, they continue to be classified as incapable of assuming leadership positions and as less productive, which can result in the abandonment of the scientific career due to this discrimination (SHELTZER *et al.*, 2014, 10107-10112). In this context, initiatives are needed to minimize this problem. In this work, we describe the activities carried out within the Women in Science Program (WIS), a British Council program designed jointly by King's College London (KCL), the Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS) and the Universidade Federal do Rio Grande do Sul (UFRGS). The WIS mentoring program aims to encourage women to plan and develop their academic careers, provide content on female participation in academia, and promote the exchange of experiences between participants and their mentors, with the goal of fostering female participation in STEAM research areas, especially in leadership roles.

2. METHODOLOGY

In this work, an overview of the activities carried out so far in the WIS program among the mentoring participants, mentors, and invited scientists will be presented. The profile of undergraduate and graduate students who are part of the current edition of this program will also be presented. The program is structured around three main axes: mentoring, film sessions, and actions to encourage female participation in science. Eight mentors and thirty students participate in the WIS mentoring program, divided between KCL, PUCRS, and UFRGS universities. An online form (Google Forms) was created to

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assess the profile of the participants, and for the analysis of the collected data the Google Sheets program was used. There were 23 responses to the questionnaire.

3. RESULTS AND DISCUSSION

3.1. Program activities

Mentoring activities are carried out independently at the universities, except for synchronous online meetings with KCL professors. Mentoring meetings are face-to-face and weekly, but the proposed activities vary from week to week. At each meeting, a leading researcher in one of the STEAM areas is invited to share her experience as a woman in science, her difficulties, and successes throughout her career.

In addition, every 15 days there is a Film Festival, promoted by UFRGS, in which participants from both universities can meet and debate on various topics. In these cinema sessions, films that celebrate the trajectories of women scientists from different areas are shown. At the end of the session there is a debate with two researchers who are references in the area of the film. In total, 6 films will be presented throughout the program.

The WIS program also has an exchange activity, which will take place from the 11th to the 18th of October 2022 in London, United Kingdom. Two students from each of the participating Brazilian universities were selected through a letter of motivation and evaluation of engagement throughout the project. Two professors from the institutions will also go to London to follow the academic activities at KLC. Also in order to carry out actions aimed at the community, educational activities are being developed on the theme - participation of women in STEAM areas - to be applied at elementary and high school students from public schools in Porto Alegre, city of the Brazilian universities.

3.2. Participants profile

The average age among the participants is 26 years, and most of them are white (91.3%), with only one black and one yellow member. The participants are mostly heterosexual (65.2%), and regarding family income there is a greater variety of answers given by the participants. It is important to highlight that two women have an income of only up to R\$1,356. Regarding the education system of origin, 60% come from private education prior to entering undergraduate or graduate courses, representing the majority of the participants. Most of the women in the program are undergraduates, with about 50% taking courses in engineering, computing, and physics, and the other half taking courses in the health area, such as medicine and biology.

From the data analysis, it can be observed that there is diversity among the women in the program, but there are points of attention with less representation such as color, education system of origin, and sexual orientation. This may indicate that, in addition to the low female participation in STEAM areas, there are also subgroups of women who, at least among the members of this program, have lower representation. This adds even more challenges to the difficulty that these women may face in their academic careers, due to the low representation and visibility of their profiles.



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4. FINAL CONSIDERATIONS

Women tend to believe that they have no potential in STEAM areas due to the stereotypes and chauvinism that exist in society, which suggest that they do not have the same skills as men. Thus, programs such as Women in Science are of vital importance, with the aim to help young researchers in STEAM areas, increase female representation and reduce inequalities in the scientific community.

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