

AN ACTION TO PROMOTE GENDER DIVERSITY IN SCIENCE: “SCIENCES, UN MÉTIER DE FEMMES!”

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Abstract. In March 2017 and 2018, on the International Women’s Day, March 8, we have organized the event “*Sciences, un métier de femmes!*”, exclusively dedicated to high school girls, intended to encourage young girls to pursue their education in the fields of science and technology. Supported by ENS-Lyon and Femmes & Sciences association, the success of these two events demonstrated the relevance of such targeted actions. Indeed, the 3rd edition is already foreseen on March, 8 2019.

Keywords: gender diversity, science education

1 Introduction

For several decades, we are witnessing a strong decline of the interest in science among young people affecting France and all the European countries, as already illustrated in the Rocard 2007 Report (http://ec.europa.eu/research/science-society/document_library/pdf_06/report-rocard-on-science-education_fr.pdf). It is of utmost importance to halt the decline because, on long term, it can lead to a degradation of our research and innovation capacity of our country as well as this of Europe. The question of young people’s lack of interest in science is worrying, but the absence of girls in scientific sectors is shocking. However, gender diversity in jobs is a cornerstone of our competitiveness.

To combat prejudices and promote equal opportunities between women and men, we organised in Lyon, in 2017 and 2018, the event “*Sciences, un métier de femmes!*”, one day specifically dedicated for girl students at high schools. Our objective is to demonstrate that engineering and science jobs are not “male” jobs but are attractive jobs for women as it is for men.

2 Context of the event

Even if we nearly achieved gender parity in high schools’ scientific sections, there is a huge shortage of women in industry and fundamental sciences. Each year, just a bit more than 16% of girls in Terminale S continue in engineering, technical or scientific studies. Why? Because received ideas die hard and we are still being shaped by the society, the media. Thus this “choice” simply reflects the social stereotypes whereby some occupations are considered typically male and others female. It’s a cultural problem, linked to an educational issue. In that context, girls have difficulties to project themselves in technical and scientific domains. We want to act because we think that a particular attention must be devoted to increase the number of girls in scientific fields, which needs reinforcing their self-confidence in these domains.

Yet, all the skills will be needed to address the large-scale social and environmental challenges of the 21st century facing us: water and energy resources, food and healthcare for soon 9 billions of human beings in a context of drastic climate changes. We need to encourage young women to study in sciences to increase the number of high-qualified young people our country needs.

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2.1 Meet role models

They are very few potential reference women in the scientific world and even today young girls have no role model. Our idea is to show by example that all scientific professions are open to girls by giving them the opportunity to meet young women working in usually labelled as "male jobs". These mentors come to testify of the diversity of careers and of the variety of backgrounds. The goal is to demonstrate that women have the skill to access to all the employment opportunities.

On March, 8 2018, we were honoured that Mrs. Franoise Barré-Sinoussi, Nobel Prize for medicine, and Mrs. Anne-Marie Lagrange, from the French Academy of Sciences, agreed to sponsor our event; they gave a clear and involved message to the girls, who were very impressed that a Nobel Prize took her time to talk to them.



Fig. 1. Left: A packed auditorium fully attentive on March, 8 2017. **Right:** the panel of young women as role models in 2018.

2.2 Feedback

In 2017, in Musée des Confluences, we welcomed 311 girls coming from 10 high schools inside Académie de Lyon; in 2018, at ENS, they were 465 girls coming from 15 high schools, and we had to refuse a third of the applicants! We have very positive feedback from the girls and from their teachers.

- 82% of the girls estimate that the day was useful for their future, improving their confidence and self-esteem
- the mentors built the confidence to 85.5% of the girls
- 56,3% of them certify that the event changed their way of seeing scientific and technical professions
- 35% of the girls agree that the action will have a positive effect on their futures studies

2.3 Partners

The ENS' Administration is a strong support of our action because the school itself suffers a wide gap in science sections (with less than 15% of women in fundamental science sections), while girls form the great majority in the literature branch. Thus, ENS is willing to develop events promoting gender diversity. The organisation of the events of March, 8 2017 and 2018 results of a collaboration with Audrey Mazur-Palandre and Francois Pellegrino, ENS and LabEx ASLAN, Femmes & Sciences, ENS-Lyon, LabEx LIO, LabEx Milyon and MAIF.

3 Conclusions

The success of our events demonstrates the relevance to get in touch directly with high schools girls and gives them female role models in sciences. We must try to give girls confidence in their success capabilities. Scientific disciplines are various and lead to jobs for our future world. We tried to stimulate the desire of girls to work in skilled trades, in particular in "cutting-edge" fields that offer good career prospects. A major advance will be when interventions in high schools to awake vocation of future students in physics will become real part of researchers' work.

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