

## **International day of women and girls in Science – 11 Feb**

### **Summary of the debate that happened on the 9th Feb**

#### ***Starting point***

- What data do we have about the presence of women in Physics and Physics Engineering?
- Is it necessary to encourage girls into STEM? If the answer is yes, how to do it?

#### **Data**

##### **Quantitative**

- approximately 30% of women - in LIP Scientific Council; Phd Students (it can get to 40%);
- same 30% in Olimpíadas da Física (organized by SPF) in the regional level. The number decreases in national level. International level there is only 5% of girls.
- Study made by some of Lip's women researchers showed (10 years ago) that the situation in South Europe regarding particle physics was "not bad". However, we are talking always about 30% . ie,  $\frac{1}{3}$  .
- Situation has not improved in the last years. Also, there is an impression that the number of girls in IST and FCUL is decreasing (though we lack quantitative data to support this impression).
- After all, the 30% figure, which has seemed reasonable for a long time, does bring some questions.

##### **Qualitative**

- From labs in the Universities to secondary schools, our colleagues noticed a big difference relating to the attitude of most girls towards more "technical" stuff, e.g. programming, electronics. Also, they tend to ask less questions.
- LIP minho noticed a difference between Masterclasses in Braga and in Porto. When the students are not selected due to grades (Braga) there is 50% girls, 50% boys. In Porto, where only the best physics students participate, there are a lot more boys.
- Small debate about innate and acquired differences. Nevertheless the impression is that girls develop less interest in technology themes or are not encouraged to develop it and in general are less willing to speak first than boys in public sessions or never make any question.

##### **Context**

- Even scientific toys reinforce gender divide. For e.g. Science for you: the kits to make candles, soaps, perfumes, lipsticks, are packaged in pink and purple. The kits for electricity or aeronautics are packaged with grey, blue, green colours.
- This lead to the question of the image of certain courses and disciplines. For e.g. Biochemistry, being as technical as Physics, appeals to both genders — has it something to do with the "bio" prefix? What can you do to change the public image of Physics?
- The essential problem seems to be how to motivate (in early stages!) more girls to STEM and encourage a more egalitarian and confident attitude towards participation in science activities and discussions.

- The women present in the debate did not feel discrimination in their careers. Some of them do recall being “the only woman” in a meeting. In bigger collaborations this discomfort tends to disappear.

### ***What can we do?***

#### **Data**

- Collecting more data, in a systematic way, seems important.
- Ana Sofia Nunes, will coordinate the preparation of an article on the topic for the next Boletim
- See with SPF if any collection of data is being made, or if we can help
- See with social sciences colleagues (ICS; ISCTE) if there are any relevant studies on the topic.

#### **Encouraging**

- **Role models:** sometimes they can make a difference. LIP’s Outreach activities in schools should improve regarding the regular participation of women.
- **Best practices<sup>1</sup>:** — Girls should participate more actively. One e.g. *A school conference where only boys make questions in the end. Encourage girls to speak by saying: “from this point forward I would like to have the questions only from the girls in the room”.* Avoiding putting an expert-boy leading a group if you feel girls are not at ease with the subject.
- **General interest on Sciences:** develop the work with younger kids, experimentation. Start in the primary school. Although LIP has little resources, there is an intention to pursue this. Challenge to create “Basic Science Kit of LIP”, and try to implement it in a school (disciplines or science clubs, other activities). There will be an open space at Jornadas to develop this idea.

To conclude, this discussion should be continued and more sessions like this one should exist <sup>2</sup>.

#### **References**

1. Model “G2G” (Girls2Girls): <https://www.eyhn.org/>
2. Article about Paulo Freire’s methodology called *generative themes*. Case study about activities with technology in a “slum” of Brasil (case shows how poverty and gender can affect the relation with the subject at hand). Link: <https://tinyurl.com/y7s8h5xm>
3. Gender equality at Técnico: <https://www.delas.pt/a-igualdade-de-genero-no-tecnico/>
4. **Toolkit** for promoting girls participation on STEM. Hypatia Project: <http://www.expecteverything.eu/hypatia/>
5. “Mujeres con ciencia” tells about the work of women scientist today and recall their history: <https://mujeresconciencia.com/>

---

1 Reference/E.g. Please add references to the last section. Small descriptions (as in the e.g.) are welcome.

2 Shared folder in Google drive?