

**Breaking barriers for women in science**  
**Organisation: AIPFE Cyprus-Women of Europe**  
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Gender equality is important. Not only does the absence of equality undermine the very essence of the notion of democracy, it also triggers a number of adverse political, economic and social effects. In fact, there is a strong business case for gender diversity, as an economy where women are equally represented and where they are actively encouraged to participate and engage in socioeconomic activity, tends to fare better on a series of indicators. This is all the more so in the case of Cyprus where women are, in general terms, more highly educated than men and engage more often than their male counterparts in lifelong learning and vocational training. Keeping such potential untapped translates into a waste of scarce resources (especially if 'we train them and then we lose them' situation is applicable) and a restraint on sustainable growth rate. A 2017 study by the European Institute for Gender Equality shows that if the EU stepped up its efforts to improve gender equality more jobs would be created, GDP per capita would increase and society would be more able to adjust better to challenges related to ageing population. The very same report shows that more women graduating with degrees in STEM would help reduce gender pay gaps and would bring about a future improvement in gender equality

There are many talented, intelligent female Cypriot scientists out there, but this is not reflected in their equal participation in teams conducting scientific research and/or at the upper echelons of academia. This remains the case, even though it has been proven that gender diversity and the cultivation of inclusion in the research environment can drive scientific discovery and innovation (see M W Nielsen et al, 2018). However, some explanations for this phenomenon can be proffered. To begin with, STEM careers are not promoted as the obvious options for women, starting as early as primary school and probably affecting young women's future career choices. Although at the undergraduate level there are almost equal numbers of men and women in STEM subjects, upon graduation, many female scientists choose teaching in secondary education as their main professional activity, especially if they have graduated with a Maths or Physics degree: there are more female high school Science teachers than male.

In addition to the above, across STEM subjects, the number of women pursuing doctoral studies drops dramatically, in comparison to undergraduate and postgraduate numbers. This percentage decreases even more the higher we go up the academic ladder- we experience what we could call "female leadership pipeline leakage". Pursuing a faculty position at a Cypriot university is challenging for women in Cyprus (and elsewhere) not less because of societal pressure to focus on building a family and not to be "career-oriented", but also because women many times self-exclude themselves from activities (such as international conferences, paper presentations, book writing, field trips, research grant applications etc.) which would have provided them with necessary skills to do so. In fact, the challenge of balancing the multiple demands of a research career with family obligations seems to be a major culprit, as women in Cyprus still bear the major burden of responsibility of child rearing and caring for elderly or sick relatives.

For this project, the following data by the University of Cyprus will be made available to the team:

- a) Percentages of women in STEM subjects by department (undergraduate, postgraduate)

- b) Percentages of female faculty members in all academic levels (Lecturer, Assistant Professor, Associate Professor, Full Professor, including also non-permanent postdoctoral researchers)
- c) Careers chosen by University of Cyprus graduates of STEM subjects

These data will be combined with other data on the socioeconomic environment of Cyprus obtained from other sources.

These data should be thoroughly analysed during the Study Group week and models should be developed for the career progression for a woman in a STEM subject at the University of Cyprus. The career progression of women (vs. that of men) is directly correlated with the pay gap between men and women in Cyprus (and many other parts of the world) and the models should incorporate and make predictions about the pay gap in STEM subjects. The outcome should be a set of recommendations the University of Cyprus could adopt in order to ensure and enhance gender equality at all levels.

This project has been formulated as a stand-alone project on the University of Cyprus but it should be viewed also as a “pilot project” for a Cyprus-wide project on addressing barriers for women in science. A co-creation workshop was run in October 2018 as a pre-event of the Study Group with title “breaking barriers for women in science” where stakeholders from academia, business and policy-makers took part. After the Study Group it is envisioned that the findings will be further discussed in a follow-up co-creation workshop with the stakeholders in order to finalise recommendations for Cypriot-wide effective policies.

It is clear, more than ever, that policies should be reviewed and should be gender mainstreamed, across all Cypriot universities, so that more women are encouraged to do a PhD and then subsequently, persevere with an academic career. Better work-life balance should be achieved for women in STEM in academia (and in business) through targeted measures. New strategies should be devised and implemented, following good practices in other countries, in order to maximise women’s participation in STEM, in academia and in business and ensure the competitiveness of the Cypriot economy.

#### **References:**

- “Research Promotion Foundation Gender Equality Plan 2018-2020” (2018) <http://www.research.org.cy/images/media/assetfile/RPF%20GEP%200918.pdf>
- World Bank report “Women, Business and the Law” (2018), <https://wbl.worldbank.org/>
- Constantinou, M. 2015 Women in Physics in Cyprus: a First Report <https://aip.scitation.org/doi/abs/10.1063/1.4937660>
- Academic Affairs and Student Welfare Services, University of Cyprus (personal communication with the ESG146 Organising Team)
- European Institute for Gender Equality, 2017 <https://eige.europa.eu/gender-mainstreaming/policy-areas/economic-and-financial-affairs/economic-benefits-gender-equality> (see report therein ‘ How gender equality in STEM education leads to economic growth’)