

Why do we need women in STEM?

“Women need science, and science needs women. Only by tapping into all sources of knowledge, all sources of talent, can we unlock the full potential of science, and rise to the challenges of our time,” said [UNESCO Director-General Ms Audrey Azoulay](#).

In our rapidly advancing world, the importance of Science, Technology, Engineering, and Mathematics (STEM) fields cannot be overstated. These disciplines are the driving force behind technological breakthroughs, innovation, and progress. However, a significant gender gap persists within STEM professions, and efforts to bridge this divide have become more crucial than ever.

The [Global Gender Gap Report 2023](#) highlights the stark reality of gender inequality in STEM. Despite women comprising almost half (49.3%) of total employment across non-STEM occupations globally, they represent just 29.2% of all STEM workers.

This report shows that while the percentage of female STEM graduates entering STEM employment is increasing, the retention of women in STEM one year after graduating sees a significant drop. This data underscores the persistent challenges that women face in establishing and sustaining careers in STEM fields.

The [International Day of Women and Girls in Science](#), celebrated annually on 11th February, serves as a platform to address these challenges. It aims to raise awareness about the underrepresentation of women in STEM and advocates for their inclusion and empowerment in these fields.

As we strive to tackle pressing global issues outlined in the Agenda for Sustainable Development, such as improving health and combating climate change, harnessing the full spectrum of talent is imperative. Increasing the participation of women in these fields is vital, as diversity in research not only expands the pool of skilled researchers but also brings in fresh perspectives, talent, and creativity. The United Nations' theme for this year, '[Women and Girls in Science Leadership – a New Era for Sustainability](#),' underscores the significance of women's leadership in achieving the three pillars of Sustainable Development: economic prosperity, social justice, and environmental integrity.

The [inclusion of women in STEM](#) not only brings a diversity of perspectives, ideas, and problem-solving approaches but also serves as [powerful role models](#), inspiring future generations of girls to pursue careers in science and technology. When young girls see women succeeding in scientific fields, it challenges stereotypes and encourages them to pursue their interests in STEM.

[Numerous female scientists](#) have left an indelible mark in their respective fields, and their legacies persist as a wellspring of inspiration for future generations of scientists. This underscores the paramount importance of perseverance and dedication in the relentless pursuit of scientific knowledge. Among these notable figures are Rosalind Franklin, Marie Curie, and Dorothy Crowfoot Hodgkin, each contributing significantly to the advancement of scientific understanding.

Rosalind Franklin, a distinguished chemist and X-ray crystallographer, played a pivotal role in unravelling the molecular structures of DNA, RNA, viruses, coal, and graphite.

Marie Curie, a pioneering physicist and chemist, made ground-breaking discoveries in radioactivity, leading to the identification of two elements: polonium and radium. Marie Curie's work laid the foundation for advancements in medical treatments and radiology.

Dorothy Crowfoot Hodgkin, a distinguished British chemist and X-ray crystallographer, made significant contributions to comprehending the structures of crucial biochemical substances. Hodgkin deciphered the three-dimensional structures of penicillin and vitamin B12. Her exceptional contributions were recognised with the Nobel Prize in Chemistry in 1964, highlighting the profound impact of her work on understanding vital biochemical structures.

The work of these female scientists exemplifies the importance of fostering a diverse STEM workforce, as their breakthroughs underscore the significant contributions that individuals, irrespective of gender, can make to the field. As reported by the European Institute for Gender Equality (EIGE), gender equality in STEM education leads to economic growth. By tapping into the full talent pool, countries can enhance their global competitiveness and lead to innovation-driven economic growth.

In alignment with this commitment to diversity and inclusion in STEM, Malta has been designated as the [first World Capital for Women and Girls in Science](#) for the inaugural year 2023 – 2024 by the Royal Academy for Science International Trust (RASIT). The Capital of Women and Girls in Science is a global initiative that is offered under the auspices of RASIT to promote equity, diversity, and inclusion in all fields of science and place these issues at the heart of the world's attention for a yearlong celebration.

According to the [National Statistics Office \(NSO\)](#), in 2022, 15.4% of graduates achieved a qualification in STEM. Despite a 2.9% increase in female STEM graduates compared to the previous year and a 1.8% decrease in male STEM graduates, male graduates continue to outnumber females. Specifically, in 2022, there were 597 male graduates and 247 female graduates.

The [National Commission for the Promotion of Equality \(NCPE\)](#) plays a crucial role in combating gender stereotypes in STEM. By challenging preconceived notions and promoting inclusivity, together we can contribute to creating an environment where women feel valued and supported in pursuing STEM careers.

The need for women in STEM is not just about achieving gender equality, it's about harnessing the full potential of our society. The International Day of Women and Girls in Science serves as a reminder of the challenges women face in STEM and the importance of collective efforts to overcome these barriers.

The National Commission for the Promotion of Equality (NCPE) can be contacted on: 2276 8200, equality@gov.mt or NCPE's social media platforms (Facebook, Instagram, and Twitter - NCPE.Malta)

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