



# WOMEN IN SCIENCE

## GLOBAL PARTICIPATION OF WOMEN IN RESEARCH AND STEM FIELDS

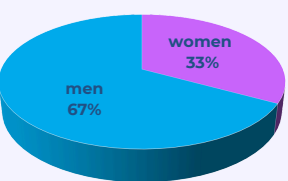


According to the UNESCO Science Report (2021), **women represent around 33% of researchers globally**. While the overall participation of women in research has increased since the late 1990s (from about 28%), their representation in specific STEM fields, such as engineering and computer sciences, remains significantly lower. **For example, women constitute 28% of graduates in engineering and technology**. This disparity highlights a slow but steady rise in female participation, with certain regions like Latin America achieving near-parity in some fields, while others lag behind.

Source: UNESCO Science Report 2021

<https://www.unesco.org/reports/science/2021/en/women-digital-revolution>

### GLOBAL PARTICIPATION OF WOMEN IN RESEARCH



#### 1. Mary Anning

A self-taught fossil hunter, discovered the first complete Ichthyosaurus skeleton in **1811** at just 12 years old.

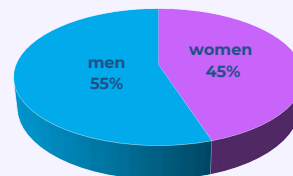


Source: <https://www.britannica.com/biography/Mary-Anning>

## PHD GRADUATES IN STEM FIELDS

Over the past decades, the number of women obtaining PhDs in STEM has increased. **As of 2020, women represent about 45% of PhD graduates globally across all scientific fields**, with some fields like natural sciences approaching 50% gender parity. **However, women remain underrepresented in areas like engineering (28%) and computer science (40%)**.

Source: UNESCO Women in Science Fact Sheet 2020

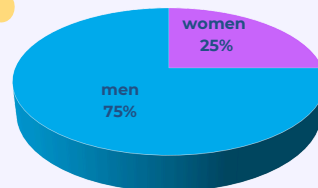


### PH.D. DEGREE ACROSS ALL SCIENTIFIC FIELDS

Source: UNESCO Women in Science Fact Sheet 2020

### PH.D. GRADUATES IN TECHNICAL PROFESSIONS

Source: <https://www.frontiersin.org/journals/materials/articles/10.3389/fmats.2023.1129648/full>



#### 2. Ada Lovelace

Is considered the first computer programmer for her work on the Analytical Engine in the **1840s**.

Source: <https://www.britannica.com/biography/Ada-Lovelace>



#### 3. Maria Skłodowska-Curie

Was the first woman to win a Nobel Prize in **1903**, and the only person to win it in two sciences (Physics in 1903, Chemistry in 1911).

Source: <https://www.nobelprize.org/prizes/physics/1903/marie-curie/biographical/>



#### 4. Lise Meitner

Co-discovered nuclear fission in **1938**, but only her male colleague won the Nobel Prize in 1944.

Source: Wikipedia; [https://en.wikipedia.org/wiki/Lise\\_Meitner](https://en.wikipedia.org/wiki/Lise_Meitner)



### Smithsonian Science Education Center, [ssec.si.edu](https://ssec.si.edu)

E-books and articles on inspiring women who have significantly impacted STEM fields. Profiles include Mary Golda Ross, a pioneering Native American aerospace engineer, and Madam C.J. Walker, a trailblazer in the cosmetics industry.

L'Oréal-UNESCO For Women in Science, [forwomeninscience.com](https://forwomeninscience.com)

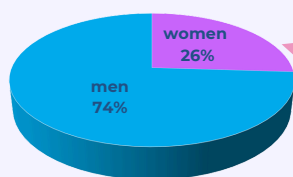


## REPRESENTATION IN SENIOR ACADEMIC POSITIONS

Despite progress at the PhD level, women's representation in senior academic roles remains low. **According to the She Figures 2021 report, women hold only 26% of Grade A academic positions** (equivalent to full professorships) in STEM disciplines. This figure has improved slowly since the 1990s, but gender disparity persists, particularly in leadership roles. The report highlights that women are more likely to be in junior academic roles than senior ones, with a slow progression towards equality in higher academic ranks.

European Commission She Figures 2021

[https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/she-figures-2021\\_en](https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/she-figures-2021_en)



### FULL PROFESSORSHIPS IN STEM DISCIPLINES

Source: European Commission She Figures 2021



#### 5. Barbara McClintock

Discovered "jumping genes" in the **1940s** and won a Nobel Prize in Physiology or Medicine in 1983.

Source: <https://www.nobelprize.org/prizes/medicine/1983/mcclintock/facts/>

## LISTEN TO THE #SHORTS STORIES OF PHD STUDENTS!



Helena Ciechowska  
Department of Seismology, IG PAS



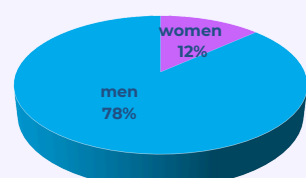
Nicole Hanslemann  
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## LEADERSHIP ROLES IN RESEARCH PROJECTS

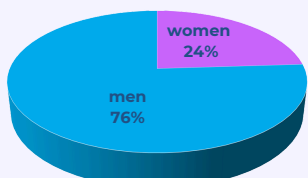
Women are significantly underrepresented in leadership roles in research, particularly in STEM-related fields. **According to the UNDP 2023 report on Women in STEM, women represent only about 12% of principal investigators in major international research projects**. Furthermore, their participation in leadership roles in tech-driven fields like artificial intelligence is even lower, with women constituting only 22% of AI professionals.

Source: UNDP Report on Women in STEM 2023



### PRINCIPAL INVESTIGATORS IN INTERNATIONAL RESEARCH PROJECTS

Source: UNDP Report on Women in STEM 2023



### HEADS OF HIGHER EDUCATION INSTITUTIONS

Source: <https://www.frontiersin.org/journals/materials/articles/10.3389/fmats.2023.1129648/full>



Women in Science Archive, [wisarchive.com](https://wisarchive.com)



#### 6. Maria Goeppert Mayer

Won the Nobel Prize in Physics in 1963 for proposing the nuclear shell model in **1949**.

Source: <https://www.nobelprize.org/prizes/physics/1963/mayer/biographical/>

11  
FEBRUARY  
THE INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

## SELF-REFLECTION QUESTIONS TO ASK YOURSELF

- ★ What challenges have you faced as a woman starting out in STEM?
- ★ Do you feel supported by your peers and mentors in your current role?
- ★ Have you had any mentors or role models who helped shape your path?