



11<sup>th</sup> February

International Day of  
Women and Girls in Science

**#WomenInScience**



Celebrates contributions of female scientists throughout history  
 Empowers women to pursue their dreams & careers  
 Inspires future generations and raises awareness of inequalities to ensure full & equal access to Science.

become leaders along Earth and space science's path through the last 100 years. As AGU celebrates our Centennial, we celebrate how their contributions have transformed science and inspired future generations, while also recognizing how much work remains to be done to achieve full and equal access for women and girls in STEM.

**1919**  
 Florence Bascom publishes *The Geology of Mount Desert Island*, becoming the first female geologist to survey the island. In 1893 she was the first woman to receive a doctorate from Johns Hopkins University.

**1936**  
 Inge Lehmann discovers the Earth's inner core, contributing to our understanding of the planet's deep interior.

**1946**  
 Dorothy Hill becomes the first female president of the Australian Academy of Science, playing an active role in the research program of the Great Barrier Reef committee.

**1952**  
 Marie Tharp discovers the Mid-Atlantic ridge by mapping the ocean floor, changing the field of marine cartography.

**1955**  
 Maria Klenova, a marine geologist and professor, becomes the first female scientist to carry out work for her discipline in Antarctica.

**1957**  
 Katsuko Saruhashi becomes the first woman to earn a doctorate in chemistry from the University of Tokyo. As a geochemist, she makes some of the first measurements of carbon dioxide and radioactive materials in ocean water.

**1962**  
 Rachel Carson describes dangers to the ecosystem from pesticides in *Silent Spring*, launching the contemporary environmental movement, which eventually leads to the birth of the EPA.

**1963**  
 Valentina Tereshkova becomes the first woman to travel in space, orbiting the Earth 48 times.

**1971**  
 Eugenia Kalnay becomes the first woman to earn a PhD in meteorology from MIT and the first woman to join the university's meteorology department.

**1992**  
 Mae Carol Jemison becomes the first African-American woman to travel in space, serving as a mission specialist on the Endeavour space shuttle.

**2016**  
 Marcia McNutt, who was also the first female director of the United States Geological Survey, becomes the first woman president of the National Academy of Sciences.

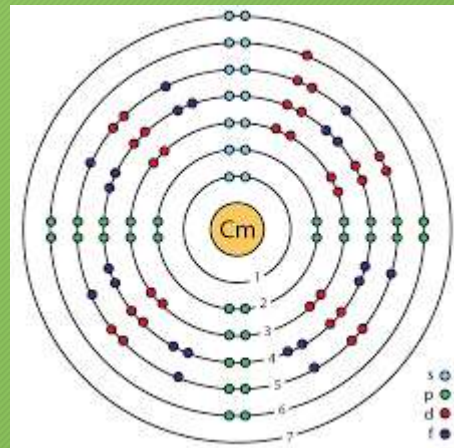
**AGU**

# Marie Curie- 1867-1934

## Polish-born French Physicist



- Famous for her work on radioactivity, she devoted her researches to the study of the chemistry of radioactive substances and the medical applications of these substances.
- During the First World War, Marie Curie worked to develop small, mobile X-ray units that could be used to diagnose injuries near the battlefield.
- Only female in history to have won two Nobel Prizes & only one of TWO women to have an element named after them! Curium
- Marie Curie allowed her name to be used by the Marie Curie Hospital in north London, staffed entirely by women to treat female cancer patients using radiology.

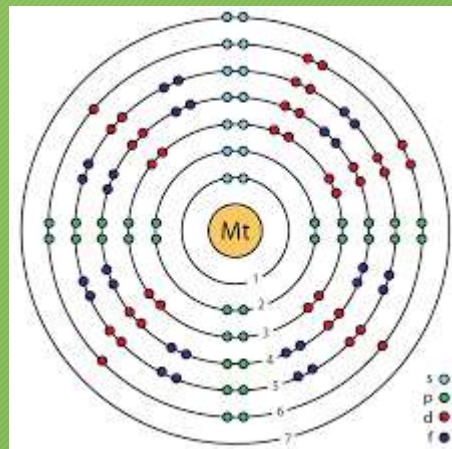


# Lise Meitner (1878 - 1968)

## Austrian Physicist- Nuclear Physics



- The first woman professor of physics in Germany
- Meitner frequently worked in partnership with Hahn, a chemist.
- Hahn's showed that the nucleus of uranium could break apart, however, Meitner's physics explained exactly what was happening -- nuclear fission, but the Nobel prize to awarded to Hahn alone
- Meitner received numerous posthumous honors, among them the naming of element 109 meitnerium.



# Dr Ismahane Elouafi- PhD in Genetics Moroccan/Canadian

- Elouafi believes that science has to be the basis of decisions and development plans in order to achieve efficiency and alleviate discrimination and poverty.
- Director General of ICBA, a leading research facility that aims to help poor farmers in places where water is scarce.



# Dr Hayat Al Sindi- Biotechnologist Makkah, Saudi Arabia

- First woman from the Middle East to hold a PhD in Biotechnology.
- Co-founded 'Diagnostics-For-All,' which aims to bring easier technology to developing countries. She raised money by winning the prestigious Harvard Enterprise Competition and the \$100,000 MIT award, attracting a further \$10m from Bill Gates.
- “When I came to Cambridge I was told by a famous scientist that I would fail because I am female and religion doesn't go with science. I want to tell women scientists around the world – not just Muslims – that we should cross bridges and find the good in people. I want women to believe in themselves. I want to tell the whole world: do not let people belittle your dreams, if you believe in who you are, go for it.”



# Anousheh Ansari: Electrical Engineer Iranian

- Ansari immigrated to the US as a teenager;
- BSc in Electronics and Computer Engineering & Master's degree in Electrical Engineering from George Washington University.
- She captured headlines on 18<sup>th</sup> September 2006 for being the first female private space explorer.
- She also earned a place in history as the fourth private explorer to visit space and the first astronaut of Iranian descent.



# Dr. Sherri A. Mason PhD Chemistry

- First scientist to research and identify microplastics pollution in the Great Lakes, the largest freshwater system in the world.
- Her research brought international attention to the threats posed by microplastics, leading to state and federal bans on microbeads, tiny bits of plastic used in exfoliating scrubs and washes that were accumulating in the environment and the food chain
- Director of Sustainability at The Behrend College



# What makes a great scientist?



“

Curiosity is probably one of the most important characteristics that people have who go into science, and engineering is about solving problems and creativity.

ELLEN OCHOA  
FIRST HISPANIC WOMAN IN SPACE

Scientists look at everything with wonder & curiosity.  
They ask...Why? How? What if? They are curious like this kitty!



Scientists aim to make the world a better place by using their talents & creativity to benefit humanity.

THE BEST AMONG YOU  
ARE THOSE WHO BRING  
GREATEST BENEFITS TO  
MANY OTHERS

HADITH RELATED BY IMAM AL-THABARANI




"SOMEWHERE,   
SOMETHING *incredible*  
IS WAITING TO BE  
 *known*"

- CARL SAGAN

# Islam, Women & Science

Whoever follows a path in  
the pursuit of knowledge,  
Allah will make easy for him  
a path to Paradise

— Prophet Muhammad (peace be upon him)



"SEEKING KNOWLEDGE  
IS A DUTY OF  


---

EVERY MUSLIM,  
MAN OR WOMAN."

Prophet Muhammad (peace be upon him)

**The Prophet Muhammad (S.A.W.) says:**

**It is obligatory for every Muslim  
to acquire knowledge.  
Allah likes those  
who seek knowledge.**



# If you've ever wondered...

- About the marvels & amazing creations of Allah
- Thought about why you dream?
- Tried putting a Mento in Cola?
- Is there a cure for the Coronavirus?
- Why is the sky blue?
- Whether we can build a sustainable world
- Why some people like Marmite & others do not?
- Is there a cure for Cancer?
- Why do we only see one side of the moon?
- How do birds and planes fly?
- What would happen if you sneezed with your eyes open?
- How many times can you fold a piece of paper?
- How we solve world poverty?
- How do spiders walk on the ceiling?



**...then there is a  
scientist in YOU!**

YOU CAN DO  
ANYTHING.  
YOU CAN BE ANYTHING  
YOU WANT TO BE.  
AS LONG AS YOU  
BELIEVE IN YOURSELF  
AND WORK HARD.



- <https://www.youtube.com/watch?v=5U5t6mzSkY8>



# AL-ASHRAF

## SECONDARY SCHOOL FOR GIRLS

*" Striving for academic and moral excellence through Islam "*