This week's Woman in STEM

Katherine Johnson

Katherine Johnson (1918-2020)

- Studied geometry in college at the age of 15
- Worked as a mathematician in NASA for 34 years
- Calculated the orbits needed to travel to the Moon

This week's Woman in STEM

Alice Ball

Alice Ball (1892-1916)

Extracted the oil from the chaulmoogra tree and studied it to find a cure for leprosy

Her treatment worked but she died before it could be published.

Her findings were published under a different name until 2000 when her work was finally recognised as the “Ball method”

This week's Woman in STEM

Gladys West

Gladys West (1930-)

- Worked as a programmer and data processor for the American navy
- Designed a programme which showed Pluto's movements relative to Neptune
- Also known for her mathematical modelling of the shape of the Earth which lead to the development of GPS

This week's Woman in STEM

Barbara McClintock

Barbara McClintock (1902-1992)

- Focused her research on studying the genetics of maize
- Discovered that genes can “jump” along a chromosome
- Received the Nobel Prize in Physiology/ Medicine in 1983 for this discovery

This week's Woman in STEM

Caroline Herschel

Caroline Herschel (1750-1848)

- Worked alongside her brother William Herschel
- Most famous for discovering several comets including 35P/ Herschel- Rigollet
- First woman to receive a wage as a scientist

This week's Woman in STEM

Dorothy Hodgkin

Dorothy Hodgkin (1910-1994)

- Advanced a technique called x-ray crystallography
- Used crystallography to determine the structure of penicillin
- Received the Nobel Prize in Chemistry in 1964

This week's Woman in STEM

Hedy Lamarr

Hedy Lamarr (1914-2000)

Originally worked as an actress and starred in over 30 films

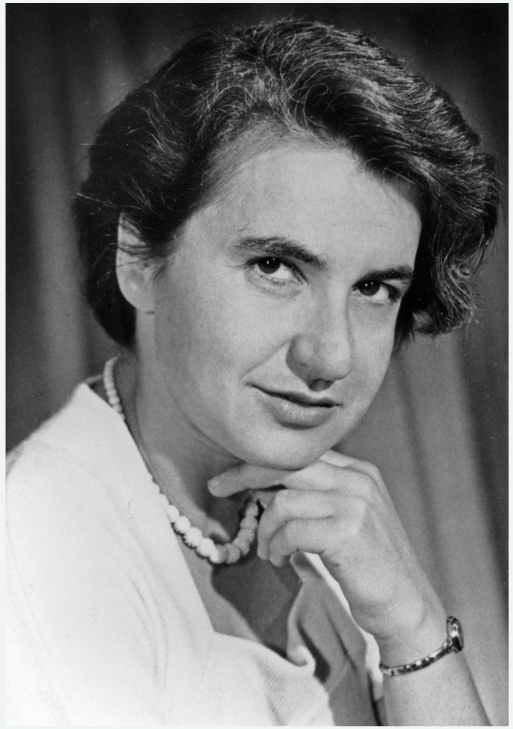
During WW2 she collaborated on a communications system to guide torpedoes without them being detected

This technology was later used to develop Wifi and Bluetooth

This week's Woman in STEM

Rosalind Franklin

Rosalind Franklin (1920-1958)



- Used X-ray diffraction to study DNA
- Photographed the helix structure of DNA which lead to the full structure being discovered
- Did not get the credit for her contribution to the discovery of the structure of DNA

This week's Woman in STEM

Radia Perlman

Radia Perlman (1951-)

- Known as the “Mother of the Internet”
- Famously designed the “Spanning Tree” protocol for network bridges
- Holds more than 100 issued patents in different areas of computer science

This week's Woman in STEM

Cecilia Payne

Cecilia Payne (1900-1979)

- Proposed that stars were made from hydrogen and helium which was later proved right
- Also discovered stars can be categorised based on their temperature
- First woman to be awarded the Annie Jump Cannon Prize and the Henry Norris Russell Prize

This week's Woman in STEM

Jennifer Doudna

Jennifer Doudna (1964-)

- Studied the function and activity of ribozyme
- Most known for her help developing CRISPR (gene editing technology)
- Won the Nobel Prize in Chemistry in 2020 for her work on genome editing

This week's Woman in STEM

Ada Lovelace

Ada Lovelace (1815-1852)

Collaborated on the first general purpose computer which could add and subtract any number

Thought about taking this computer further, creating one that could show text and pictures

Recognised as the world's first computer programmer

This week's Woman in STEM

Maryam Mirzakhani

Maryam Mirzakhani (1977-2017)

- Won gold at the Olympiad in two consecutive years
- Worked as a professor in the US, focusing her research on the geometry of curved spaces
- Was the first woman and first Iranian to win the Fields medal

This week's Woman in STEM

Marie Curie

Marie Curie (1867-1934)

- Discovered the elements radium and polonium with her husband Pierre
- Isolated pure radium for the first time
- Won Nobel Prizes in both Chemistry and Physics, the only woman ever to do so

This week's Woman in STEM

Rita Levi-Montalcini

Rita Levi-Montalcini (1909-2012)

- Focused her research on how cells and nerves grow
- During WW2 she was forced into hiding but continued her research in a lab she built in her bedroom
- Won the Nobel Prize in Physiology/ Medicine in 1986 for her discovery of the nerve-growth factor

This week's Woman in STEM

Ann Makosinski

Ann Makosinski (1997-)

Invented a torch that is powered by body heat instead of electricity

Entered her Hollow Flashlight into the Google Science Fair and won first place

Gone on to invent more things, start new businesses, and is a motivational speaker

This week's Woman in STEM

Chien-Shiung Wu

Chien-Shiung Wu (1912-1997)

- Nicknamed the “First Lady of Physics” and the “Queen of Nuclear Physics”
- Worked on the Manhattan project, developing the process of separating U-235 and U-238
- The results of her famous Wu experiment earned her colleagues the Nobel Prize in Physics in 1957 but Wu was not recognised for her work

This week's Woman in STEM

Pardis Sabeti

Pardis Sabeti (1975-)

- Developed a method to identify which parts of a genome were affected by natural selection
- Worked on a team which tracked Ebola transmissions between animals and humans
- Named TIME Magazine's person of the year in 2014 and one of the TIME 100 most influential people in 2015

This week's Woman in STEM

Hypatia

Hypatia (355-415)

- One of the most famous mathematicians, astronomers, and philosophers of her time
- Interested in geometry and algebraic equations
- Constructed astrolabes and hydrometers from the associated mathematics

This week's Woman in STEM

Gertrude B. Elion

Gertrude B. Elion (1918-1999)

Helped to develop rational drug design as opposed to trial and error methods

Used her drug design to create 45 new drugs for various illnesses including leukemia, chickenpox, and AIDS

Won the Nobel Prize in Physiology/ Medicine in 1988 for her drug design

This week's Woman in STEM

Susan Kare

Susan Kare (1954-)

- Created the fonts Geneva, Chicago and Monaco
- Designed numerous icons including trash, scissors, paint bucket, and notepad
- Has designed interfaces for Apple, IBM, Microsoft, NeXT, Facebook, Pinterest, and Sony

This week's Woman in STEM

Maria Goeppert Mayer

Maria Goeppert Mayer (1906-1972)

Published “Statistical Mechanics” with her husband

Was the only woman working on the Manhattan Project during WW2

Won the Nobel Prize in Physics in 1988 for proposed model of the atomic nucleus, the second woman to do so

This week's Woman in STEM

Kathleen Lonsdale

Kathleen Lonsdale (1903-1971)

- Irish crystallographer who developed several crystallography methods to determine chemical structures
- Confirmed the structure of benzene by x-ray crystallography
- First woman to be elected to the Royal Society of London

This week's Woman in STEM

Joan Clarke

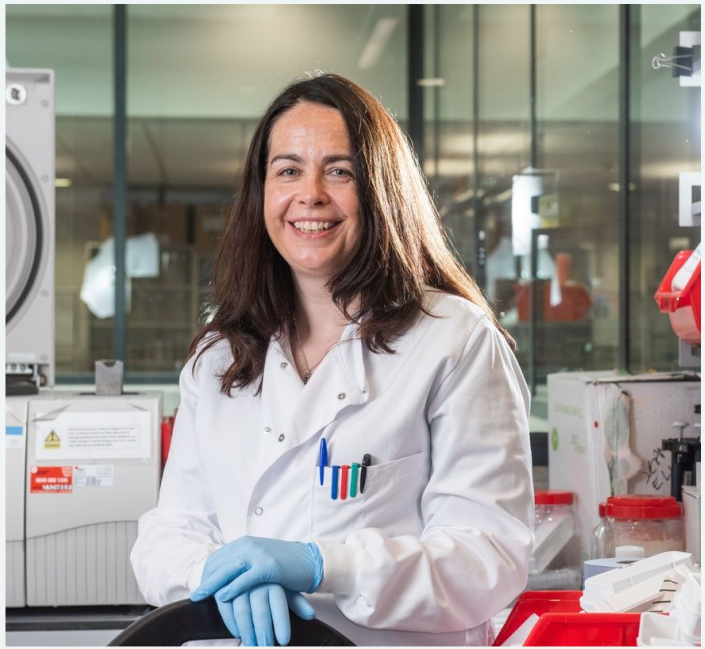
Joan Clarke (1917-1996)

- Achieved a double mathematics degree but was not awarded the full degree from Cambridge
- Worked as a cryptologist in Hut 8, the only woman in the group
- Helped to decipher the German code during WW2 using Enigma

This week's Woman in STEM

Teresa Lambe

Teresa Lambe



- Irish scientist who helped to develop vaccines for Crimean Congo hemorrhagic fever, ebola, Lassa fever, MERS, and Nipah virus
- Recently helped to develop the Oxford vaccine for COVID-19
- Appointed an OBE in 2021 for her contribution to Science and Public Health services

This week's Woman in STEM

Mary Jackson

Mary Jackson (1921-2005)

- Petitioned to attend maths and physics classes in a segregated school to become an engineer
- Became NASA's first POC woman engineer in 1958
- Later worked in NASA's Office of Equal Opportunity, influencing the hiring and promotion of women and POC employees

This week's Woman in STEM

Katie Bouman

Katie Bouman (1989-)

An American computer scientist and engineer who specialises in computer imagery

Designed CHIRP,an algorithm used to image black holes

Was a part of the team who captured the first image of a black hole in 2019

This week's Woman in STEM

Annie Maunder

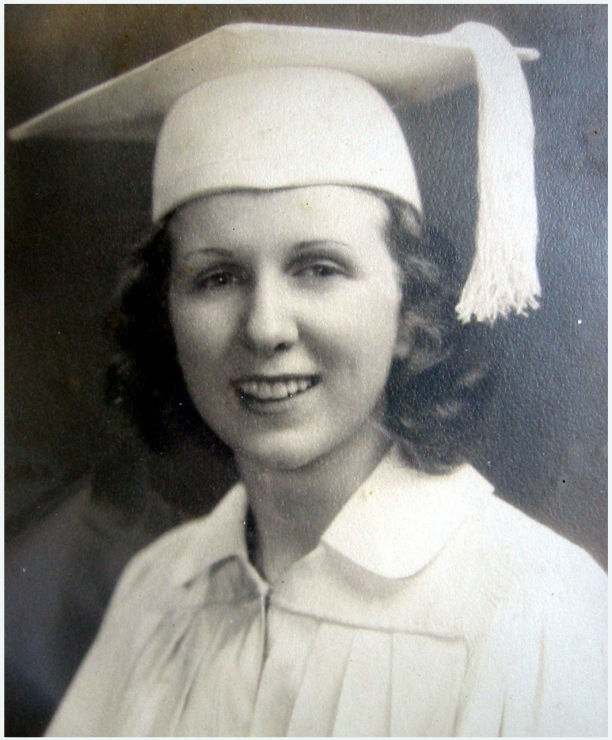
Annie Maunder (1868-1941)

- Assigned to capture and examine daily photos of the sun
- Discovered the largest recorded extension of the corona but the discovery was attributed to her husband
- The 11-year cycle of sunspots was discovered and named after Annie and her husband

This week's Woman in STEM

Kathleen Antonelli

Kathleen Antonelli (1921-2006)



Worked briefly for the US army, calculating trajectories for shells and bullets

One of six programmers of ENIAC, the first general-purpose electronic computers

Had to program this computer by hand, essentially teaching herself how to program through practice

This week's Woman in STEM

Cynthia Longfield

Cynthia Longfield (1896-1991)

International dragonfly expert and explorer, nicknamed “Madame Dragonfly”

Studied many different species of dragonfly during her career, discovering three new ones in the process

First female president of the London Natural History Society

This week's Woman in STEM

Beatrice Shilling

Beatrice Shelling (1909-1990)

- Was one of two women studying engineering at the Univeristy of Manchester in 1932, the first year women could study it
- Famously designed a mechanism to restrict fuel flow to the engines of planes during WW2
- Awarded an OBE for her life-saving work

This week's Woman in STEM

Roberta Bondar

Roberta Bondar (1945-)

- Canada's first female astronaut and the first neurologist to go to space
- Flew on the NASA Space Shuttle Discovery where she conducted over 40 experiments
- Is also a photographer, author, public speaker, and educator

This week's Woman in STEM

Lise Meitner

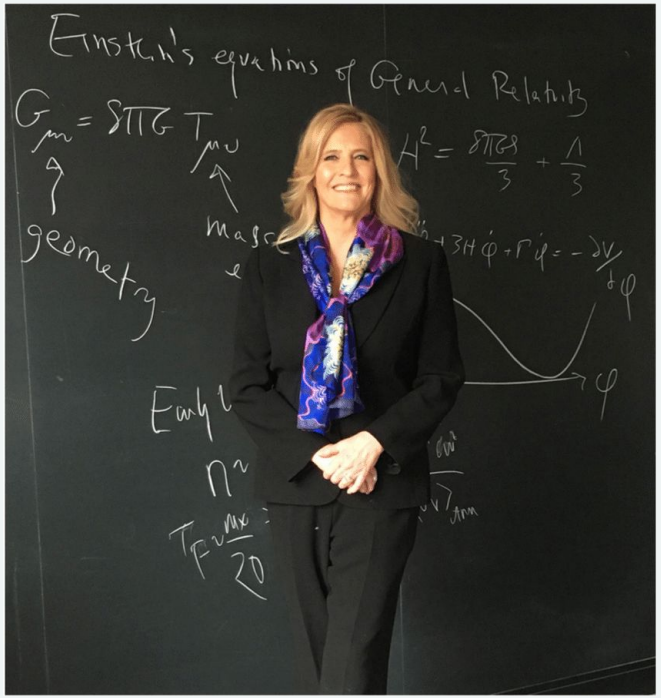
Lise Meitner (1878-1968)

- Was the first woman professor in physics in Germany but lost this position during WW2 when she was forced to flee
- Worked on a team that discovered nuclear fission but did not share the Nobel Prize in Physics for it.
- Now has an element named after her in recognition of her contributions to radioactivity

This week's Woman in STEM

Katherine Freese

Katherine Freese (1957-)



Theoretical astrohphysicist, studying the link between particle matter and astronomy

One of the first to propose ways to detect dark matter and the idea of dark stars

Created the theory of natural inflation, which has stood correct against 25 years of experimental data