

# TU YOUYOU

Occupation  
Pharmaceutical Chemist

Nationality  
Chinese

Famous Quote  
*'Every scientist dreams of doing something that can help the world.'*

Tu Youyou was a Chinese scientist born on the 30th of December 1930. She studied ancient Chinese medicine texts and discovered a chemical that could be used to treat Malaria, resulting in millions of lives being saved. She won a Nobel prize for her contribution to science.

## PROJECT 523

During the Vietnam war, malaria was causing casualties amongst Vietnamese soldiers. In response China assembled a task force called project 523 to help find a treatment, and put Tu in charge. She travelled to rainforest areas of southern China to examine the devastating effects of the disease.

## BIRTH

Tu Youyou was born in Ningbo, Zhejiang, China, on 30th of December 1930.

## CHILDHOOD TUBERCULOSIS

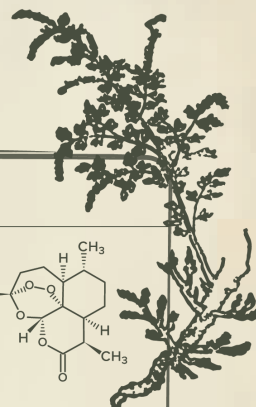
Tu contracted tuberculosis as a teenager. This sparked a strong interest in studying medicine to find cures for diseases like the one she suffered from.

## ANCIENT CHINESE MEDICAL TEXTS

Tu and her research team turned to ancient Chinese medical texts. The team found reference to 'sweet wormwood' that was used in 400 AD to treat intermittent fever, a symptom of malaria.

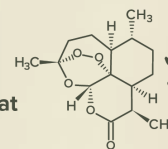


Tu Youyou



## ISOLATES ARTEMISININ FROM SWEET WORMWOOD

Tu developed a new process that removed an active ingredient from the sweet wormwood that could be used to treat malaria. Tu and two colleagues tested the treatment on themselves before testing 21 patients. All of them recovered.



## NOBEL PRIZE AWARDED IN 2015

In 2015, Tu was awarded a Nobel Prize in medicine for her discovery of the malaria treatment which saved millions. She was the first woman and first Chinese person to win the award. On top of this Tu had no doctorate, medical degree or training abroad.



"Artemisinin... is a true gift from old Chinese medicine. But this is not the only instance in which the wisdom of Chinese medicine has borne fruit."

Tu Youyou



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CENTURY



# LISE MEITNER

Occupation  
Physicist

Nationality  
Austro-Hungarian

Famous Quote  
*'Life need not be easy,  
provided only that it is not empty'*



Lise Meitner is considered by some to be the most significant female physicist of the twentieth century.

## FIRST WOMAN IN GERMANY TO RECEIVE DOCTORATE

When Lise Meitner was studying, Universities in Germany did not admit women. Despite this, she studied physics privately and became the second woman in the world to earn a doctorate degree, the first in Germany.



## BIRTH

Lise Meitner was born on the 7th November 1878 in Vienna, Austria.

## DISCOVERED PROTACTINIUM

Working with the chemist Otto Hahn, Meitner discovers the radioactive element protactinium and receives the Leibniz Medal from the Berlin Academy of Sciences.



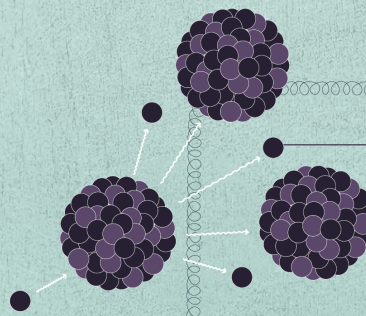
## PROFESSOR OF PHYSICS

Becomes the first woman in Germany to hold a full professorship at the University of Berlin.



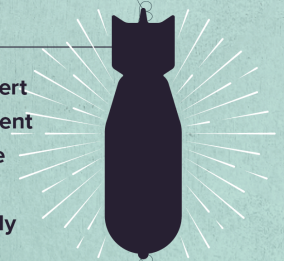
## NUCLEAR FISSION RESEARCH

Worked on nuclear fission, but the research was interrupted due to the rise of the Nazi party in Germany. Meitner left in the summer of 1938 to settle in Sweden as she was Jewish.



## ATOMIC BOMB

Meitner's research on fission inspired Albert Einstein and Leo Szilard to contact President Roosevelt. This led to the formation of the Manhattan Project and the creation of the nuclear atomic bomb. Meitner highly disapproved of the use of nuclear fission by the American military.



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# MARIE MAYNARD DALY

Occupation  
Chemist

Nationality  
American

Famous Quote

*'Courage is like — it's a habitus, a habit, a virtue: You get it by courageous acts. It's like you learn to swim by swimming. You learn courage by couraging.'*

Marie Maynard Daly was the first African American Woman in the United States of America to earn a Ph.D. in Chemistry. During a time when the structure of DNA was not fully understood, Marie Maynard Daly made significant discoveries in how cholesterol affects the body and how proteins are made in cells.

## BIRTH

Marie Maynard Daly was born on the 16th April 1921 in New York, USA.

## EDUCATION

Daly attended a laboratory high school where she was encouraged to pursue chemistry and graduated in the top 2.5% of her class.

## PH.D IN CHEMISTRY

In 1947, Marie Maynard Daly was the first African American woman to earn a Ph.D. in Chemistry.

## RESEARCH USED TO UNDERSTAND DNA

Using Daly's research, Watson and Crick discovered the structure of DNA. Daly was not given recognition for her part in the discovery.

## CHOLESTEROL RESEARCH

Daly discovered the relationship between high cholesterol and clogged arteries. Increasing the world's understanding of how diet affect health.

## FOUND SCHOLARSHIP

In honour of her father, Daly sets up a scholarship to support minority students to study science at Queens College, New York.

## LEGACY

In 1999, Daly was named amongst the 50 most influential women in science, engineering and technology. She died on October 28, 2003 and in 2016 a school in Queens was renamed 'The Dr. Marie M Daly Academy of Excellence'.



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