Women in Chemistry

Mary Lyon (USA, 1797 - 1849)

https://www.britannica.com/biography/Mary-Lyon-American-educator

Mary Lyon founded Mount Holyoke College in Massachusetts, one of the first women's colleges. At the time, most colleges taught chemistry as a lecture-only class. Lyon made lab exercises and experiments an integral part of undergraduate chemistry education. Her method became popular with the result that most modern chemistry classes include a lab component.

Alice Hamilton (USA, 1869 - 1970)

https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/rachel-holloway-lloyd.html

Rachel Lloyd was an American chemist best known for her work on the chemistry and agriculture of sugar beets (Beta vulgaris). She studied at the Harvard Summer School before receiving her doctorate from the University of Zurich in 1886, becoming the first American female to earn a doctorate of chemistry. In 1891, she became the first regularly admitted female member of the American Chemical Society. More than a century later, the Society designated her research and professional contributions to chemistry a National Historic Chemical Landmark on October 1, 2014, at the University of Nebraska-Lincoln.

Women in Chemistry

Marie Curie (Poland, 1867 - 1934)

http://www.nobelprize.org/nobel_prizes/chemistry/laureates/1911/marie-curie-bio.html

Marie Curie was one of the three persons who pioneered radioactivity research. In 1903, she along with her husband Pierre Curie and Henri Becquerel shared the Nobel Prize in Physics for their research on the radiation phenomena. She again received the 1911 Nobel Prize in Chemistry, for the discovery of the elements radium and polonium, and the study of the nature and compounds of these elements. She was the first two-time Nobel laureate and the only person to win the award in two different sciences. She was the first woman to win a Nobel Prize.

Alice Hamilton (USA, 1869 - 1970)

https://en.wikipedia.org/wiki/Alice_Hamilton

Alice Hamilton was a chemist and physician who directed the first governmental commission to investigate industrial hazards in the workplace, such as exposure to dangerous chemicals. Because of her work, laws were passed to protect employees from occupational hazards. She was also the pioneer in toxicology and industrial hygiene. In 1919 she became the first female faculty member of Harvard Medical School.

Women in Chemistry

Ellen Gleditsch (Norway, 1879 - 1968)

https://en.wikipedia.org/wiki/Ellen_Gleditsch

Ellen Gleditsch (29 December 1879 – 5 June 1968) was a Norwegian radiochemist and Norway's second female professor. Starting her career as an assistant to Marie Curie, she became a pioneer in radiochemistry, establishing the half-life of radium and helping demonstrate the existence of isotopes.

Elizabeth Rona (Hungary, 1890 - 1981)

https://en.wikipedia.org/wiki/Elizabeth_Rona

Elizabeth Rona was a Hungarian nuclear chemist, known for her work with radioactive isotopes. After developing an enhanced method of preparing polonium samples, she was internationally recognized as the leading expert in isotope separation and polonium preparation. During her postdoctoral study she developed a theory that the velocity of diffusion depended on the mass of the nuclides. As only a few atomic elements had been identified, her confirmation of the existence of Uranium-Y was a major contribution to nuclear chemistry. She was awarded the Haitinger Prize by the Austrian Academy of Sciences in 1933.

Women in Chemistry

Iréne Joliot-Curie (France, 1897 - 1956)

https://www.nobelprize.org/nobel_prizes/chemistry/laureates/1935/joliot-curie-bio.html

She did important work on natural and artificial radioactivity, transmutation of elements, and nuclear physics. Iréne Joliot-Curie was awarded the 1935 Nobel Prize in Chemistry along with her husband for synthesis of new radioactive elements. In 1938, her research on the action of neutrons on the heavy elements, was an important step in the discovery of uranium fission. She created radioactive nitrogen from boron and then radioactive isotopes of phosphorus from aluminium and silicon from magnesium.

Sibyl Martha Rock (USA, 1909 - 1981)

https://en.wikipedia.org/wiki/Sibyl_M._Rock

Sibyl Martha Rock was a pioneer in mass spectrometry and computing.She was a key person in Consolidated Engineering Corporation's (CEC) mass spectrometry team at a time when mass spectrometers were first being commercialized for use by researchers and scientists. She played a key role in developing mathematical techniques for analyzing the results from mass spectrometers and in developing an analog computer with Clifford Berry for analysis of equations.

Women in Chemistry

Dorothy Crowfoot-Hodgkin (Great Britain, 1910 - 1994)

https://en.wikipedia.org/wiki/Dorothy_Hodgkin

Dorothy Crowfoot -Hodgkin was awarded the 1964 Nobel Prize in Chemistry for using X-rays to determine the structure of biologically important molecules such as penicillin and vitamin B_{12}. She used the technique of X-ray crystallography, a method used to determine the three dimensional structures of biomolecules.

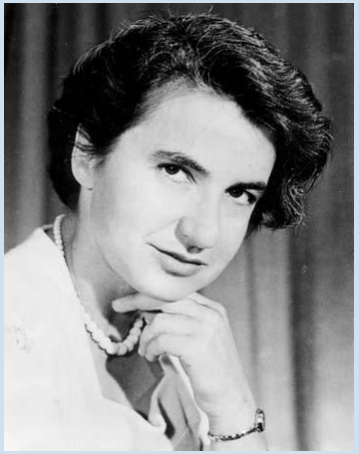
Anna Jane Harrison (USA, 1912 - 1998)

https://en.wikipedia.org/wiki/Anna_J._Harrison

Anna Jane Harrison (December 23, 1912 – August 8, 1998) was an American organic chemist and a professor of chemistry at Mount Holyoke College for nearly forty years. She was the first female President of the American Chemical Society, and the recipient of twenty honorary degrees. She was nationally known for her teaching and was active nationally and internationally as a supporter of women in science.

Women in Chemistry

Rosalind Franklin (Great Britain, 1920 - 1958)



https://en.wikipedia.org/wiki/Rosalind_Franklin

Rosalind Franklin used X-ray crystallography to observe the structure of DNA. Watson and Crick used her data to propose the double-stranded helical structure of the DNA molecule. She missed the Nobel Prize in Medicine in 1962 when Watson and Crick were formally recognized with the award as she had already left for her heavenly bode. She had also used X-ray crystallography to study the structure of the tobacco mosaic virus.

Marie Daly (USA, 1921 - 2003):

http://www.biography.com/people/marie-m-daly-604034

In 1947, Marie Daly became the first African American woman to earn a Ph.D. in chemistry. The majority of her career was spent as a college professor. In addition to her research, she developed programs to attract and aid minority students in medical and graduate school.

Women in Chemistry

Stephanie Louise Kwolek (USA, 1923 - 2014)

https://en.wikipedia.org/wiki/Stephanie_Kwolek

Stephanie Louise Kwolek was an American chemist, whose career at the DuPont company spanned over forty years. She is best known for inventing the first of a family of synthetic fibers of exceptional strength and stiffness: poly-paraphenylene terephthalamide - better known as Kevlar. For her discovery, Kwolek was awarded the DuPont company's Lavoisier Medal for outstanding technical achievement. As of February 2015, she was the only female employee to have received that honor.

Ruth Erica Benesch (France, 1925 - 2000)

https://www.emaze.com/@AOWWOQZL/Chemistry-Biography

Ruth Benesch and her husband Reinhold made a discovery that helped explain how hemoglobin, a protein in the red blood cells releases oxygen in the body. They learned that carbon dioxide functions as an indicator molecule, causing hemoglobin to release oxygen where carbon dioxide concentrations are high. She also studied different compounds which could function like hemoglobin and can be useful for treating people with diseases caused by abnormal hemoglobin, like sickle-cell anemia.

Women in Chemistry

Edith Flanigen (USA, 1929)

https://www.nae.edu/29808.aspx

She is known to be the most inventive chemist of all time. She is famously known for her work on zeolites or molecular sieves which are crystalline structures that contain molecule-sized pores. She invented among others zeolite Y which has an important role in refinement of petroleum. In 1992, Flanigen received the first Perkin Medal ever awarded to a woman, for her work synthesizing zeolites. She also invented a process for making synthetic emeralds which were used to make powerful microwave lasers in addition to beautiful jewelry.

Ada E. Yonath (Israel, 1939)

https://en.wikipedia.org/wiki/Ada_Yonath

She is a crystallographer best known for her pioneering work on the structure of the ribosome. She was awarded the Nobel Prize in Chemistry along with Venkatraman Ramakrishnan and Thomas A. Steitz for her studies on the structure and function of the ribosome. She is the first Israeli woman to win the Nobel Prize out of ten Israeli Nobel laureates, also the first woman from the Middle East to win a Nobel prize in the sciences and the first woman in 45 years to win the Nobel Prize for Chemistry. However, she is of the opinion that there is nothing special about a woman winning the Prize.

Women in Chemistry

Darshan Ranganathan (India, 1941 - 2001)

https://en.wikipedia.org/wiki/Darshan_Ranganathan

Darshan Ranganathan was an organic chemist from India who was known for her work in bio-organic chemistry, including "pioneering work in protein folding." She was also recognized for her work in supramolecular assemblies, molecular design, chemical simulation of key biological processes, synthesis of functional hybrid peptides and synthesis of nanotubes.

Jacqueline Barton (USA, 1952)

http://www.its.caltech.edu/~jkbgrp/BartonBiography.htm

Jacqueline K. Barton is the Professor of Chemistry at the California Institute of Technology. Jacqueline Barton has pioneered the application of transition metal complexes to probe recognition and reactions of double helical DNA. She uses custom-made molecules to locate genes and study their arrangement.

Women in Chemistry

M. Katharine Holloway (USA, 1957)

http://patch.com/pennsylvania/lansdale/m-katharine-holloway-named-chemistry-fellow

M. Katharine Holloway and Chen Zhao are two of the chemists who developed a new class of drugs called *protease inhibitors* to inactivate the HIV virus, bringing hope in the lives of AIDS patients. *Protease inhibitors* squash a type of enzyme (called *protease*) in the HIV virus, making new copies of the virus harmless. When combined with other drugs, like AZT (azidothymidine), which was the first drug approved to treat patients of AIDS, protease inhibitors can greatly extend the lifespan of HIV patients.

References:

1) https://en.wikipedia.org/wiki/Women_in_chemistry

2) http://chemistry.about.com/od/womeninchemistry/a/womenchemistry.htm