

Fall 2024

New Questions

A History of Women in Science



AWIS

ASSOCIATION FOR WOMEN IN SCIENCE



CHICAGO

Written by Kathryn Zamiela

"We've tended to forget
that no computer will
ever ask a new
question."

- Grace Hopper, Computer Scientist
and United States Navy Rear Admiral

This zine is dedicated to every woman
who has ever asked a question
and been told that the answer didn't matter.

"The women did what
they were told to do.
They didn't ask
questions or take the
task any further. I
asked questions; I
wanted to know why."

- Katherine Johnson,
NASA Mathematician

Gertrude Elion: Fast Facts

Era: 1918 - 1999

Nationality: American

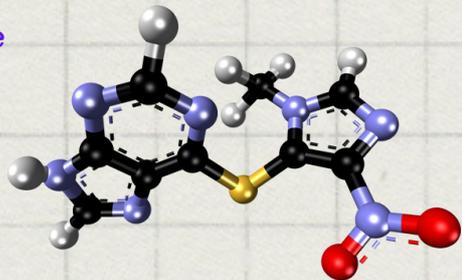
Science: Biochemist and pharmacologist

Known For: 1988 Nobel Prize in Physiology or Medicine with George H. Hitchings and Sir James Black for innovative methods of rational drug design



Developed the first successful antiviral drug, acyclovir

Developed the first immunosuppressive drug, azathioprine, used to prevent organ transplant rejection



Her work led to the development of AZT, the first widely used drug for AIDS

Gertrude Elion: Career Journey

1937

Graduated summa cum laude from Hunter College with a degree in chemistry

Unable to find a paying research job due to gender bias

1941

Earned Master of Science from New York University while working as a high school teacher

Her fifteen financial aid applications for graduate school were turned down due to gender bias

1944

Began working as an assistant to George H. Hitchings at the Burroughs-Wellcome pharmaceutical company

Started graduate studies part-time at the Brooklyn Polytechnic Institute, but left when they said she had to become a full-time student

1967

Promoted to head of the Department of Experimental Therapy

1983

Retired

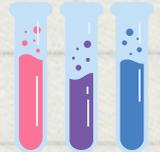
1988

Nobel Prize

Gertrude Elion: Quotes



“I hadn’t been aware that there were doors closed to me until I started knocking on them.”



“I had no specific bent toward science until my grandfather died of stomach cancer. I decided that nobody should suffer that much.”



“Don’t be afraid of hard work. Nothing worthwhile comes easily. Don’t let others discourage you or tell you that you can’t do it. In my day I was told women didn’t go into chemistry. I saw no reason why we couldn’t.”

Further Reading

Avery, M. E., & Elion, G. (2000). Gertrude Elion (Vol. 78). In National Academy of Sciences Biographical Memoirs. National Academy Press. Retrieved from <https://nap.nationalacademies.org/read/9977/chapter/3>

Nobel Prize Outreach AB. (1988). The Nobel Prize in Physiology or Medicine 1988: Gertrude B. Elion - Facts. Retrieved from <https://www.nobelprize.org/prizes/medicine/1988/elion/facts/>

Science History Institute. (n.d.). George Hitchings and Gertrude Elion. Retrieved from <https://www.sciencehistory.org/education/scientific-biographies/george-hitchings-and-gertrude-elion/>