

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

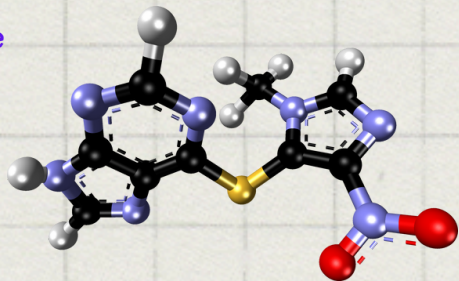
Science: Biochemist and pharmacologist

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

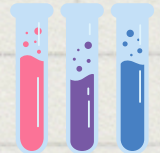
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- I937** Graduated summa cum laude from Hunter College with a degree in chemistry  
Unable to find a paying research job due to gender bias
  - I94I** Earned Master of Science from New York University while working as a high school teacher  
Her fifteen financial aid applications for graduate school were turned down due to gender bias
  - I944** 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
  - I967** Promoted to head of the Department of Experimental Therapy
  - I983** Retired
  - I988** Nobel Prize



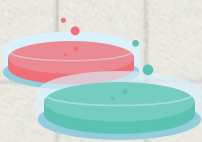
# Gertrude Elion: Quotes



"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/>