

Women's History

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Noble Scientific Women

1938 Nobel Prize winner, Enrico Fermi was expert in neutron and nuclear physics but overlooked the phenomenon of neutron induced fission. A coworker wrote, "The possibility of fission, escaped us." Collaborating with Otto Hahn, Lise Meitner produced the evidence for splitting a uranium atom, nuclear fission, in her lab. Meitner named and explained it. This discovery led directly to Fermi constructing the first self-sustained nuclear chain reaction. Hahn published laboratory results of Meitner's paper without her name and received the 1944 Nobel Prize for his research on fission. Meitner never demanded credit.

Chicago Tribune (2/26/03), "Double crossed? Rosalind Franklin never got proper credit for her revelation that the DNA molecule was a double helix." Would this happen to a women scientist today? Astrophysicist Margaret Geller replied, "Of course what happened to her could happen today. It remains very difficult for women to obtain recognition for their intellectual achievements in science." "The best home for a feminist," James Watson wrote in reverence to Franklin and other female colleagues, "is someone else's lab." Yet without Franklin's efforts, Watson and Francis Crick would not have made their DNA structure. "Her X-ray diffraction pictures of DNA were stolen by her lab mate, Maurice Wilkins and shown to Watson and Crick, providing essential information for their model." These three men shared the 1962 Nobel Prize.

Honoring the woman behind DNA, in 2003, the Chicago Medical School became the Rosalind Franklin University of Medicine and Science. As 57 percent of med students in the U.S. are women, Dr. Michael Welch, neuroscience researcher, stroke specialist, new president, and CEO said, the gender issue was important. This is the first school named after a woman.

S. Jocelyn Bell Burnell was first to detect pulsar signals most suggestive of extraterrestrial intelligent origin. In July of 1967, professor Tony Hewish designed a large, sensitive radio telescope to pick out quasars. His Ph.D. student, Burnell, had sole responsibility to operate the telescope and analyze the data from four beams simultaneously scanning the sky. Burnell who received 96 feet of chart paper a day to analyze, wrote, "After the first few hundred feet of chart analysis, I could recognize scintillating sources, interference, and detected an occasional series of pulses, which seemed suspiciously manmade. After months of analysis of miles of chart paper, Hewish came to observe and measure data. Just before Christmas, I went to see Hewish and walked into a high-level conference meeting about how to present these results. A paper in January announcing the first pulsar was submitted to NATURE. It has been suggested

that I should have had a part in the Nobel Prize awarded to Hewish for the discovery of pulsars. I am not myself upset about it after all, I am in good company, am I not!"

Rear Admiral Dr. Grace Murray Hopper began a pioneering effort of UNIVAC I, the first large-scale electronic digital computer. Admiral Hopper and her team developed the A-O, her first compiler. It translated symbolic mathematical code into machine code to collect and store programming on magnetic tape. Designed to program language, her B-O was used for automatic billing and payroll calculations. She developed an entire programming language using English, despite being told she couldn't do this because computers didn't understand English." As one of two technical advisers she defined basic COBOL language, which led to international standards for most computer programming languages. She was awarded the first ever Computer Science Man-of-the-Year Award (1969) and many other awards. Her four decades of pioneering contributions to computer science paved the way for modern data processing technology.

References

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