

HIV Heroine: Françoise Barré- Sinoussi

As a young girl, Françoise Barré-Sinoussi was intrigued by everything around her. Curiosity lived in the mind of this little girl and even the smallest of insects held a whole new world of wonder. She spent hours analyzing and questioning the ways of nature. That was just the beginning of the journey of an extraordinary scientist who would one day go on to make a significant impact in this world.

In school Barré-Sinoussi's grades profoundly showed that her interests and talents lie in the sciences. Soon after, she decided that was going to study science in university. While weighing her options between medicine and biomedical sciences, under the impression that a medical degree is both expensive and long in terms of number of years, she opted for a degree in Natural Sciences. She decided to attend Faculty of Sciences at the University of Paris for her undergraduate education.

Halfway through her degree, she was hit with the uncertainty about whether a career in research was really for her, she remembers saying to herself "I can't study at university without knowing what it means to be a researcher." That was when she decided to get some hands-on experience in a research lab. She began looking for a laboratory for a part-time internship. Back then, it was not common for a student to work in a lab and study at the same time. Being male-dominated, research labs were not used to having young women like Barré-Sinoussi work among them. She got rejected by several labs. Finally, after many months of patient searching, she was accepted as a research volunteer by a Pasteur virologist, Professor Jean-Claude Chermann. Although she had initially taken up lab research as a way to explore the field, Barré-Sinoussi found herself being so passionate about it that she ended up spending all her time in the lab. Though her lab work kept her completely occupied, she did not allow it to come in the way of her academic performance. She managed her college studies by reviewing her classmates' notes and attending university only to pass the necessary exams.

Professor Chermann, the lab director, who was studying the relationship between retroviruses and cancers in mice at that time, proposed a PhD project to study the retroviral activity of a synthetic molecule (HPA23) in leukaemia induced by Friend virus in mice. Barré-Sinoussi accepted the proposed project and began working on it immediately. The tests proved effective and she was awarded her PhD in 1974.

After spending a year in the US working on a post-doctoral project at the National Cancer Institute of the National Institutes of Health Barré-Sinoussi returned to France to take up the offer of a research position in Chermann's laboratory in Paris working in the department led, at the time, by Professor Luc Montagnier. This research group was one of the few which continued to study the link between retroviruses and cancers.

In the early 1980's, the first cases of AIDS started to appear throughout the world, and doctors and patients desperately looked for answers, trying to understand what was smothering the immune systems of young and fit people. Around this time, the Institut Pasteur team was approached by a group of French clinicians to investigate the possibility of this new disease being caused by a retrovirus.

Montagnier organised a research group and found a patient with the illness willing to take part in their study. A biopsy of the patient's lymph nodes arrived and Barré-Sinoussi and Chermann examined the sample every few days. At that time, only two retroviruses had been discovered in humans, but Barré-Sinoussi detected neither of them in her sample. She and her team found evidence of a new retrovirus. They had discovered the causative agent of a disease which had taken the world by surprise. They had discovered the Human Immunodeficiency Virus (HIV). This discovery was monumental! It gave answers to the puzzling questions of many around the world. The identification of this new virus also meant that the journey to combatting it could begin!

The year 1983 marked the beginning of Barré-Sinoussi's career in HIV research at the Institut Pasteur. In 1992 she was appointed as head of the Biology of Retroviruses Unit. Her main focus was on collaboration with resource-limited countries. After visiting Africa as part of a World Health Organisation workshop in 1985, a visit she calls "an eye-opening experience", Barré-Sinoussi was determined to campaign her scientific cause on a global scale, starting collaborative and scientific exchanges with African and Asian countries.

Her unit at the Institut Pasteur continues its work towards a better understanding of AIDS and mechanisms of control of HIV/AIDS. In 2006, Barré-Sinoussi was inducted into the Women in Technology International Hall of Fame.

Additionally, in 2008, Françoise Barré-Sinoussi, alongside Montagnier, was awarded the Nobel Prize for Physiology/Medicine for co-discovering HIV.

Later, in 2006, Barré-Sinoussi was elected to the International AIDS Society Governing Council and she went on to serve as the president of the IAS from 2012 to 2016.

Françoise Barré-Sinoussi, a woman who has dedicated her life to beating AIDS, is definitely a person to be reckoned with. Besides being a persistent, hard-working, and committed scientist, she has actively participated in the promotion of scientific collaboration and has always encouraged the youth to get involved in the research field. She says that it is now her duty to get researchers from around the world working together to find better ways to treat and prevent HIV. Despite her phenomenal contribution to the medical sciences, Barré-Sinoussi remains a humble, soft-spoken person with a strong conviction.

Françoise Barré-Sinoussi is a role model and an inspirational figure for young girls and aspiring scientists all over the world. She is the embodiment of persistence, eminent leadership and dedication. She has created a breakthrough in the world of medicine and virology, and her continued efforts have brought us so close to a world free of AIDS. She is a scientist who is motivated by the sole fact that there are people in this world still living with AIDS. She is a woman who has carved a niche for herself through the global impact her work has created. She is a hero, a STEM hero who should be celebrated, recognized and looked up to.

Biography:

Name: Anagha Honnali

Grade level/age: 11th grade/ 16 years

I am a STEM enthusiast and my specific interests are varied from computer science, math and physics to pharmaceutical science and neurology. I believe in the potential of STEM to solve global problems.

Innovation and creativity, that have become synonymous to STEM, have always inspired and fascinated me. I decided to join the 1000 Girls 1000 Futures program because I wanted to hone my skills and learn to improve myself. The opportunity to work one on one with a STEM professional is what truly drew me to this program. This is community of young women who are all passionate about STEM and I belong here. The mentors and mentees I have seen on this program are some of the most inspiring women I've ever know. I am glad to have joined this program because all the girls and the mentors have been a continuous source of encouragement and motivation for me!