

**FAMOUS WOMEN ENGINEERS**

**Hertha Ayrton:** In the 1800’s had papers published on solutions to math problems and helped her husband conduct important experiments in electricity. First female member of The Institution for Electrical Engineers and the first female to read her own paper before The Royal Society of London.

**Gail Bodyston:** A chemical engineer at Eli Lilly Co., has developed new types of insulin. Forecasts world-wide manufacturing capacity needs for chemical and biotech facilities.

**Marie Curie:** Physicist and chemist who conducted pioneering research on radioactivity. The first woman to win a Nobel Prize, the first person and only woman to win twice, the only person to win twice in multiple sciences, and was part of the Curie family legacy of five Nobel Prizes.

**Denise Denton:** Conducted biological application of MEMS. Micro-Electro-Mechanical Systems, or MEMS, is a technology that in its most general form can be defined as miniaturized mechanical and electro-mechanical elements (i.e., devices and structures) that are made using the techniques of microfabrication. Also worked to get students involved with research in their academic careers and to get more women in engineering.

**Mildred Dresselhau:** Professor of Engineering at MIT, made advances in superconductors for use in solid-state electronics. Has received many honors and awards.

**Bonnie Dunbar:** NASA astronaut who developed ceramic tiles to protect space capsules on the re-entry for Rockwell before joining NASA. Was named Rockwell Space Division Engineer of the Year and flew several NASA space missions.

**Margaret Engles:** The first woman to get a master’s degree in mechanical engineering. Worked for Carrier Corporation designing better air conditioning systems.

**Rosalind Else Franklin:** Chemist and X-ray crystallographer who made contributions to the understanding of the molecular structures of DNA, RNA, viruses, coal, and graphite. Although her works on coal and viruses were appreciated in her lifetime, her contributions to the discovery of the structure of DNA were largely recognized posthumously.

**Lillian Gilbreth:** Developed time and motion tools for the mechanical engineering industry. First woman to become a member of the Society of Mechanical Engineers.

**Beatrice Hicks:** Founding member of the Society of Women Engineers (SWE), was the first woman engineer hired by Western Electric Company, and developed sensing devices.

**Grace Murray Hooper:** PhD from Yale in 1934, developed first computer compiler as a research fellow at Harvard’s Computation Laboratory, invented COBOL programming language. Was the first Admiral in the US Navy and the oldest person ever to retire from the US Navy.

**Katherine Hopper:** A civil engineer who designed major sports facilities.

**Barbara Johnson:** NASA aeronautical engineer responsible for moon landing, and the only women on the engineering team.

**Stephanie Kwolek:** Invented the Kevlar, a high-strength material that was first commercially used in the early 1970s as a replacement for steel in racing tires. Has 19 patents and was awarded a National Medal of Technology, the highest award in engineering in the U.S.

**Elizabeth MacGill:** Worked for Austin Motors which manufactured aircraft in World War II. Designed an aircraft trainer in Canada called the Maple Leaf Trainer II. Was the first woman to chair a committee of the United Nations (UN).

**Barbara McClintock:** One of the pioneers in the field of bioengineering. Worked in genetics at Cornell University and had major research breakthroughs. Continued her work outside of Cornell and won a Nobel Prize in genetics.

**Lise Meitner:** Known as the “mother of the atomic bomb,” provided great insight to radioactive decay processes. Collaborated with Otto Hahn who discovered nuclear fission. Referred to as “The German Madam Curie.”

**Elizabeth Messer:** An aerospace engineer at NASA that led a team that developed and tested the Marshall Oxygen Cold-flow Facility. First female engineer test director at NASA’s Stennis Space Flight Center.

**Borjana Mikic:** Biomedical engineer and professor at Smith College.

**Carol Muller:** Executive Director of WISE Ventures, who partners with individuals and organizations at Stanford to amplify the impact of programs, research, and other projects to advance equity in science, technology, engineering, and mathematics (STEM) fields, and works collaboratively to establish new programs to meet needs aligned with this mission for Stanford University. Provides executive support for Stanford’s Faculty Women’s Forum.

**Elizabeth Pate-Cornell:** Has made developments in risk reduction of technological activities such as space shuttle flights and construction of dams and off-shore oil platforms. First female engineering faculty member from Stanford to be elected to the National Academy of Engineering, become a member of the National Research Council, and the NASA Advisory Committee.

**Judith Resnik:** NASA astronaut and electrical engineer who was a mission specialist on a space flight.

**Ellen Swallow Richards:** Pioneer in the field of environmental engineering and known as the “mother of environmental engineering.” Conducted the first water quality studies of Massachusetts water in 1870 that are still being used today.

**Emily Roebling:** Wife of the engineer who designed the Brooklyn Bridge. Took over technical supervision when her husband’s health failed during construction. Learned engineering “on the fly” and became the real technical leader on the project.

**Katherine Stinson:** The first female engineer to work for the Civil Aeronautics Administration, which later became the Federal Aviation Administration (FAA). Earned their Sustained Superior Performance Award as well as the Aviation Pioneer of the Year in 1987. Also helped to organize SWE and served as their president at one time.

**Maryly van Leer Peck:** A chemical engineer, became an engineering educator and conducted research on fuel combustion for the US Navy.

**Anita Vasavada:** A chemical and bioengineering faculty at Washington State University whose research is focused on the human head and neck system, addressing areas such as ergonomics, concussion, whiplash injury, and gender differences in neck biomechanics.

**Mary Walton:** A British technologist in the late 1800’s. Created a method to detect smoke emissions, and developed methods to reduce train noise that was purchased by the New York railroad system.

**Barbara Williams:** First African American woman to be named a division head at a major biomedical company. Developed improved pacemakers for dogs and hopes to use these innovations for humans.

**Chien-Shiung Wu:** Originally a researcher in nuclear physics, did experimental verification of Lee and Yang’s theory about beta decay (they got the Nobel Prize, not her). Developed a process for separating two types of uranium by gaseous diffusion. Also conducted research on sickle-cell anemia using advanced biophysics.