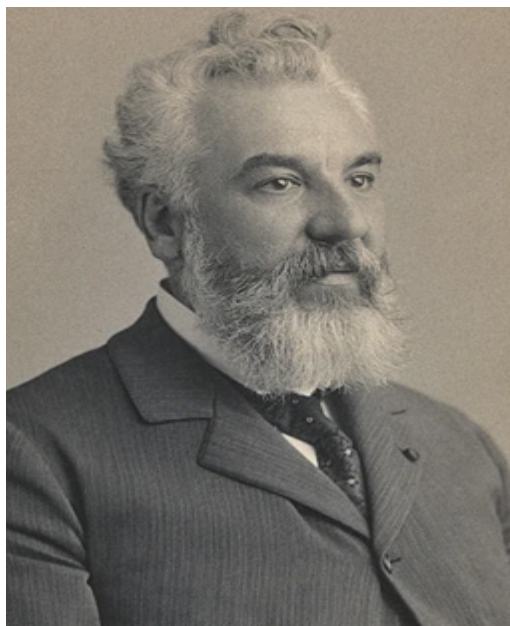


Celebrating the March Born Scientists

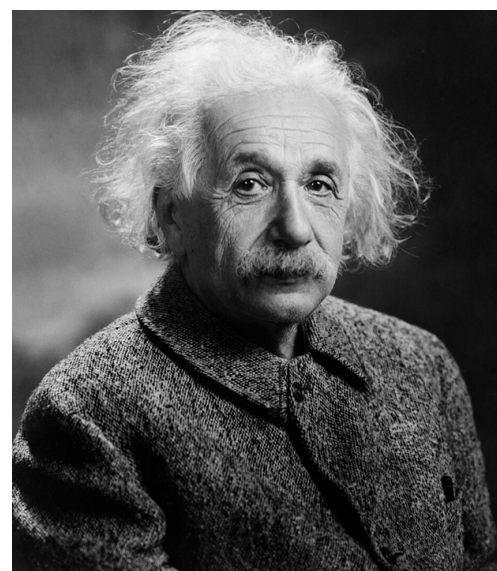
Bhupati Chakrabarti

These luminaries, born in the month of February, have each illuminated the path of human progress in their own right. Their discoveries have transcended the bounds of their respective fields, shaping the world as we know it. As we reflect on their lives and legacies, we are reminded of the boundless potential of the human spirit to inquire, innovate, and inspire. Through their work, these scientists have left an enduring legacy, a testament to the power of curiosity and the relentless pursuit of knowledge.



Alexander Graham Bell was born on March 3, 1847 and was a Scottish-born Canadian-American inventor, scientist, and engineer who is credited with patenting the first practical telephone. He also co-founded the American Telephone and Telegraph Company (AT&T) in 1885. His research on hearing and speech further led him to experiment with hearing devices, which eventually culminated in his being awarded the first U.S. patent for the telephone, on March 7, 1876. Bell considered his invention an intrusion on his real work as a scientist and refused to have a telephone in his study. Many other inventions marked Bell's later life, including groundbreaking work in optical telecommunications, hydrofoils, and aeronautics. Bell also had a strong influence on the National Geographic Society and its magazine while serving as its second president from 1898 to 1903. Beyond his work in engineering, Bell had a deep interest in the emerging science of heredity. His work in this area has been called "the soundest, and most useful study of human heredity proposed in nineteenth-century America ... Bell's most notable contribution to basic science, as distinct from invention."

Albert Einstein was born on March 14, 1879 and was a German-born theoretical physicist widely regarded as one of the most influential scientists of all time. He is best known for developing the theory of relativity, which transformed our understanding of space, time, and gravity. Einstein also made major contributions to quantum theory. His mass–energy equivalence formula, $E = mc^2$, derived from special relativity, is often described as the world's most famous equation. In 1905, Einstein published four groundbreaking papers. These works explained the photoelectric effect, described Brownian motion, introduced special relativity, and demonstrated that mass and energy are fundamentally equivalent. For his explanation of the photoelectric effect, Einstein received the 1921 Nobel Prize in Physics for his services to theoretical physics. In 1915, he proposed the general theory of relativity, extending his earlier work to include gravitation. A paper published the following year explored the implications of this theory for the structure and evolution of the universe and introduced the cosmological constant, marking an early step in modern cosmology. In 1917, Einstein also introduced the concepts of spontaneous and stimulated emission, which later became central to the development of lasers and masers.



Kalpana Chawla was born on March 17, 1962 and was an Indian-American astronaut and aerospace engineer who was the first woman of Indian origin to fly to space. Chawla expressed an interest in aerospace engineering from an early age and took engineering classes at Dayal Singh College and Punjab Engineering College in India. She then traveled to the United States, where she earned her MSc and PhD, becoming a naturalized United States citizen in the early 1990s. She first flew on the Space Shuttle Columbia in 1997 as a mission specialist and robotic arm operator aboard STS-87. Her role in the flight caused some controversy due to the failed deployment of the Shuttle-Pointed Autonomous Research Tool for Astronomy (“Spartan”) module. Chawla’s second flight was in 2003 on STS-107, the final flight of Columbia. She was one of the seven crew members who died in the Space Shuttle Columbia disaster when the spacecraft disintegrated during its reentry into Earth’s atmosphere on February 1, 2003. She was posthumously awarded the Congressional Space Medal of Honor, the NASA Space Flight Medal, and the NASA Distinguished Service Medal. Several buildings, spacecraft, and extraterrestrial landmarks have been named in her honor.



Amalie Emmy Noether was born on March 23, 1882 and was a German mathematician who made many important contributions to abstract algebra. She also proved Noether’s first and second theorems, which are fundamental in mathematical physics.[4] Noether was described by Pavel Alexandrov, Albert Einstein, Jean Dieudonné, Hermann Weyl, and Norbert Wiener as the most important woman in the history of mathematics. As one of the leading mathematicians of her time, she developed theories of rings, fields, and algebras. In physics, Noether’s theorem explains the connection between symmetry and conservation laws. Noether was born to a Jewish family in Erlangen, daughter of mathematician Max Noether. After earning her doctorate in 1907 under Paul Gordan, she worked without pay, reflecting barriers facing women. In 1915 David Hilbert and Felix Klein invited her to Göttingen, where she lectured under Hilbert’s name until habilitation in 1919. Noether became a central figure in abstract algebra, mentoring the “Noether Boys.” Her 1921 paper on ideals founded modern commutative algebra and introduced Noetherian objects. Noether’s theorem linked symmetries and conservation laws in physics. Dismissed by the Nazis in 1933, she continued influential teaching and research in America. while Noether’s theorem has widespread consequences for theoretical

physics and dynamical systems. Noether showed an acute propensity for abstract thought, which allowed her to approach problems of mathematics in fresh and original ways.

Dr Bhupati Chakrabarti is a retired faculty from the Department of Physics, City College, Kolkata and was the General Secretary of IAPT from 2013 to 2018. He can be reached through chakrabhu@gmail.com