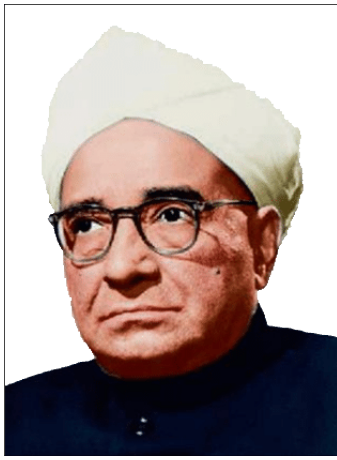
Celebrating the December Born Scientists

Sangeeta G Magan

These luminaries, born in the month of December, 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.



Sir K. S. Krishnan was a pioneering Indian physicist who significantly contributed to the discovery of Raman scattering alongside his mentor, C.V. Raman. He was born on 4th December, 1898 in Watrap, Tamil Nadu. In 1920, Krishnan joined the Indian Association for the Cultivation of Science (IACS) in Kolkata, where he conducted extensive research on light scattering and its theoretical implications, playing a crucial role in the discovery for which Raman won the Nobel Prize in 1930. Krishnan also made important advancements in the magnetic properties of crystals, developing the Krishnan-Banerjee method for measuring magnetic susceptibility in small crystals. He was appointed the first Director of the National Physical Laboratory of India in 1947 and became a Fellow of the Royal Society (FRS) in 1940. He was knighted in 1946 and received the Padma Bhushan in 1954. Krishnan's contributions to physics and his leadership in Indian science earned him a prominent place in global scientific history.

Arnold Johannes Wilhelm Sommerfeld, was a German theoretical physicist who pioneered developments in atomic and quantum physics, and also educated and mentored many students for the new era of theoretical physics. He was born on 5th December, 1868. He served as doctoral supervisor and postdoc supervisor to seven Nobel Prize winners and supervised at least 30 other famous physicists and chemists. Only J. J. Thomson's record of mentorship offers a comparable list of high-achieving students. He introduced the azimuthal quantum number and the magnetic quantum number.[2] He also introduced the fine-structure constant and pioneered X-ray wave theory.

Sir Humphry Davy, born on 17 December, 1778, was a British chemist and inventor who invented the Davy lamp and a very early form of arc lamp. He is also remembered for isolating, by using electricity, several elements for the first time: potassium and sodium in 1807 and calcium, strontium, barium, magnesium and boron the following year, as well as for discovering the elemental nature of chlorine and iodine. Davy also studied the forces involved in these separations, inventing the new field of electrochemistry. Davy is also credited with discovering clathrate hydrates. In 1799, he experimented with nitrous oxide and was astonished at how it made him laugh. He nicknamed it "laughing gas" and wrote about its potential as an anaesthetic to relieve pain during surgery. Davy was a baronet, President of the Royal Society (PRS), Member of the Royal Irish Academy (MRIA), Fellow of the Geological Society (FGS), and a member of the American Philosophical Society (elected 1810).

Prof Sangeeta G. Magan, *a certified pharmacist and business communication expert with over three decades of experience, teaches both higher education students and corporate leaders in India and abroad. She is a member of the advisory group for VIGYAN 2047 and can be contacted at sangeeta03m@gmail.com*