Contribution of Mathematicians

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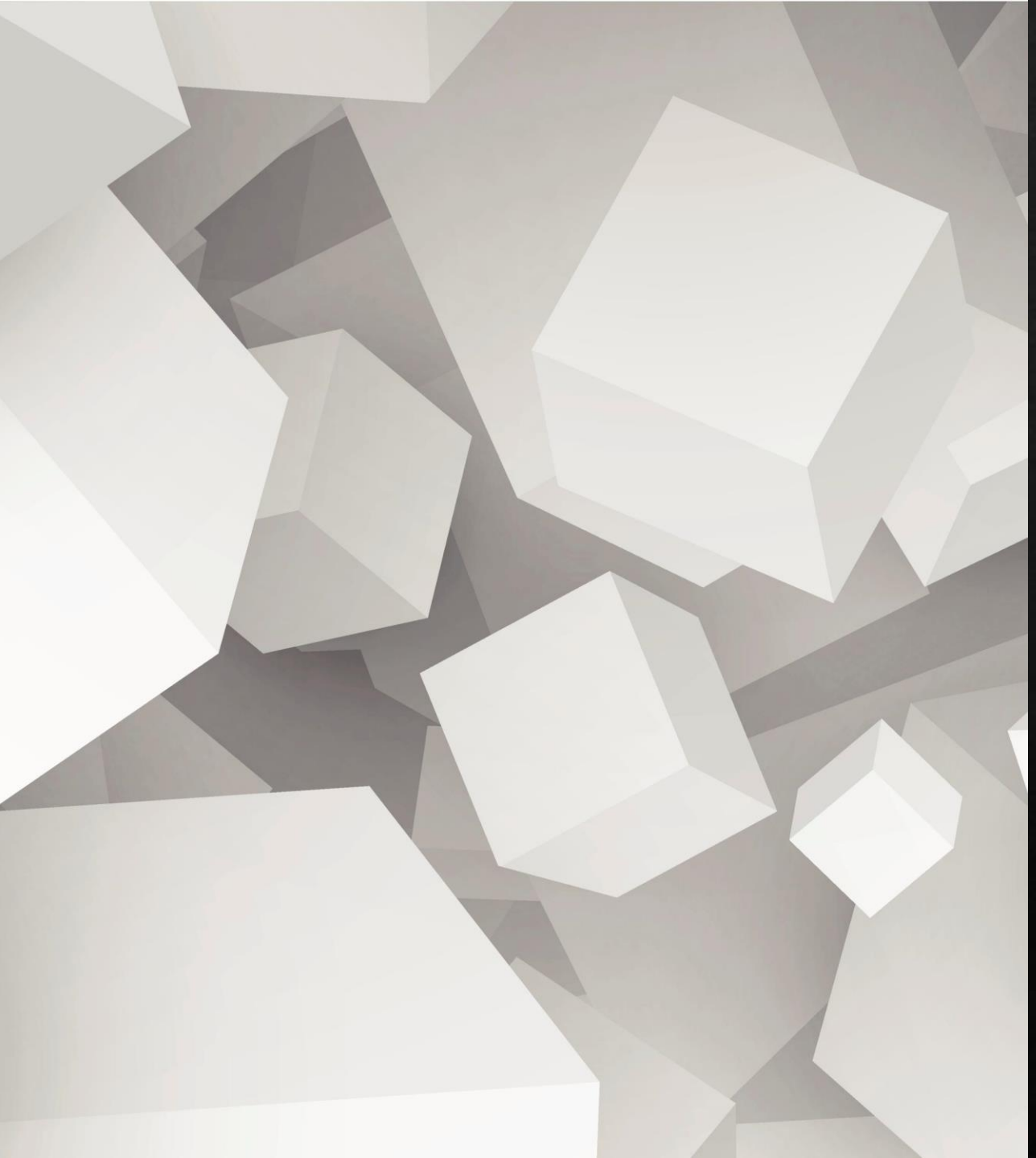

In the field of Physics

Satyendra Nath Bose

- Satyendra Nath Bose (January 1894 – 4 February 1974) was an Indian mathematician and physicist specializing in theoretical physics.

His Contributions in Physics

- He is best known for his work on quantum mechanics in the early 1920s
- He also contributed to developing the foundation for Bose statistics and the theory of the Bose condensate.
- The theory was then proved in 2001 by Eric A. Cornell, Wolfgang Ketterle and Carl E. Wieman

Honors Received

- In 1937, Rabindranath Tagore dedicated his only book on science, *Visva–Parichay*, to Satyendra Nath Bose.
- He was also honored with title Padma Vibhushan by the Indian Government in 1954
- In 1959, he was appointed as the National Professor, the highest honor in the country for a scholar, a position he held for 15 years.
- In 1986, the S.N. Bose National Centre for Basic Sciences was established by an act of Parliament, Government of India, in Salt Lake, Calcutta.
- Bose became an adviser to the then newly formed Council of Scientific and Industrial Research.
- He was the president of the Indian Physical Society and the National Institute of Science.
- He was elected general president of the Indian Science Congress.
- He was the vice-president and then the president of Indian Statistical Institute.
- In 1958, he became a Fellow of the Royal Society.
- He was also nominated as member of Rajya Sabha.

In the field of Astronomy

Aryabhata

- Aryabhata (476–550 CE) was an Indian mathematician and astronomer of the classical age of Indian mathematics and Indian astronomy.

His Contributions in Astronomy

- Aryabhata correctly insisted that the earth rotates about its axis daily, and that the apparent movement of the stars is a relative motion caused by the rotation of the earth, contrary to the then-prevailing view, that the sky rotated. This is indicated in the first chapter of the *Aryabhatiya*, where he gives the number of rotations of the earth in a *yuga*. and made more explicit in his *gola* chapter
- Solar and lunar eclipses were scientifically explained by Aryabhata. He states that the Moon and planets shine by reflected sunlight.
- Considered in modern English units of time, Aryabhata calculated the sidereal rotation (the rotation of the earth referencing the fixed stars) as 23 hours, 56 minutes, and 4.1 seconds Similarly, his value for the length of the sidereal year at 365 days, 6 hours, 12 minutes, and 30 seconds. These values were almost accurate.

Honors

- Aryabhata's work was of great influence in the Indian astronomical tradition and influenced several neighboring cultures through translations. The Arabic translation during the Islamic Golden Age (c. 820 CE), was particularly influential. Some of his results are cited by Al-Khwarizmi and in the 10th century Al-Biruni stated that Aryabhata's followers believed that the Earth rotated on its axis.
- Aryabhata Knowledge University (AKU), Patna has been established by Government of Bihar for the development and management of educational infrastructure related to technical, medical, management and allied professional education in his honour. The university is governed by Bihar State University Act 2008.
- India's first satellite Aryabhata and the lunar crater Aryabhata are both named in his honour, the Aryabhata satellite also featured on the reverse of the Indian 2-rupee note.
- An Institute for conducting research in astronomy, astrophysics and atmospheric sciences, the Aryabhata Research Institute of Observational Sciences (ARIES) was set-up in his honor near Nainital, India.
- The inter-school Aryabhata Maths Competition is also named after him.
- A bacillus, a species of bacteria discovered in the stratosphere by ISRO scientists in 2009., was also named *aryabhata*

Thank You