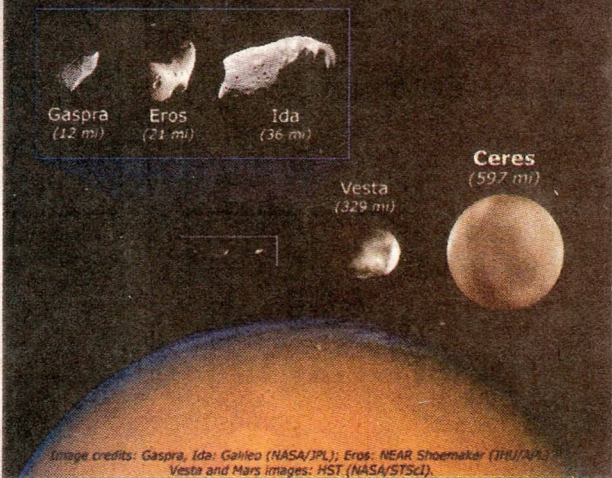


# Telescopic Discoveries Of Asteroids From India

**Prof R C Kapoor\*** smaller than planets  
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oids (bodies smaller

between 2 - 4 AU (1 AU = 1.4959787 · 10<sup>8</sup> km - the mean Earth - Sun distance) from the Sun where the orbital periods vary between 3 to 6 years. The diameter of the largest one, 1 Ceres first discovered in 1801, is 955 km and it carries about 25% of the mass of the asteroid belt. There are only 140 asteroids with a diameter greater than 100 km. The bigger ones are roughly spherical but the rest are irregular in shape.

Hubble image of Ceres, the largest asteroid in the main asteroid belt, compared with four other asteroids and Mars. (Longest dimension for each body in parentheses.)



planets and their satellites, the Solar System consists of asteroids, the minor planets in between the orbits of Mars and Jupiter, comets and myriads of meteors. Asteroids are sometimes called planetoids also. These are

than 10 metres across) and most of these together constitute what is known as the asteroid belt. The asteroid belt is likely to contain about 2 million objects of size greater than a km, and millions that are comparatively smaller. The belt extends approximately

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## Telescopic Discoveries....

gravitational presence of the planet Jupiter. There are a number of asteroids discovered from India and there are many carrying Indian names too. During his stint as a Government astronomer at the Madras Observatory (that evolved into the present day Indian Institute of Astrophysics), from 1861 till his demise in 1891, Norman Pogson using an 8 inch Cooke equatorial, not only discovered several variable stars but five asteroids too. The asteroids were subsequently named Asia, Sappho, Sylvia, Camilla and Vera (1885). He also discovered Amphitrite (1854), Isis (1856), Ariadne (1857) & Hestia (1857). For his discovery of the Isis, he was awarded the Lalande medal of the French Academy. The credit for discovering new asteroids in the 20th Century from India again goes to the Indian Institute of Astrophysics (IIA). In Jan 1987 the IIA took up a new observational programme Project Kalki with the aim to survey and discover asteroids, comets and the likely tenth planet of the Solar System. A 45-cm Schmidt telescope with a field of view of  $3^\circ \times 4^\circ$  was put to use at the Vainu Bappu Observatory at Kavalur for the survey. The search proved fruitful as it led to the discovery of six asteroids. The first among these, subsequently numbered 4130 and named Ramanujan after the great mathematician, was traced on the plates taken on the night of Feb 17, 1988 by a team led by R Rajamohan. Between 1988 and 1990, another five asteroids were discovered. These were assigned numbers as 4706, 5178, 7564, 8348 and 17446 respectively. In 2004 the asteroid 4706 was named Dennisreuter after Dennis C. Reuter, a physical chemist in NASA and in 2006 the asteroid 5178 was named Pattazhy after Sainudeen Pattazhy, an environmental scientist in India. In 2008 the International Astronomical Union accepted R Rajamohan's proposal for the asteroids 7564 and 8348 to be named Bhattacharyya and Gokumenon respectively, after J C Bhattacharyya, during whose term as the Director of IIA, and after M G K Menon the then Chairman of the Governing Council of IIA, the Project Kalki had been taken up. A number of asteroids have been named after eminent Indians. The asteroid 1958 Chandra was named after the astrophysicist Subramanyan Chandrasekhar Nobel Laureate, as also the orbiting Chandra X-ray Observatory, Raman after the physicist Chandrasekhara Venkata Raman Nobel Laureate, Vainu Bappu (2596), Mrinalini (2986), Sarabhai (2987) and Kalpana Chawla. Some other asteroids carrying Indian names include figures from mythology. Page:2