Editorial*

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This issue features Varadarajan who was one of the "famous four" mathematicians at the Indian Statistical Institute, Kolkata during the golden period 1956–1965 – the others being K R Parthasarathy, R Ranga Rao, and S R S Varadhan. The articles by Ramesh Gangolli and K R Parthasarathy recount various mathematical and personal aspects based on their associations with 'Raja' as Varadarajan was known. Varadarajan closely followed the mathematical developments emerging from Harish-Chandra's deep work and wrote expositions for the other non-experts. He edited Harish-Chandra's collected works. Apart from mathematics, he had a life-long interest in physics as well as in the historical aspects of mathematics and wrote extensively on the contributions of the ancient Indians. His influential writings have made it possible for many mathematicians to get an idea of the connections between mathematics, probability theory and physics. Specifically, when unsubstantiated claims about ancient Indian mathematical contributions abound, informed expositions by Varadarajan are very important as they tell us what it is precisely for which we can be proud, replacing misplaced emotional arguments.

Dark energy – an unknown form of energy – is the most accepted hypothesis to explain the observations indicating that the universe is expanding at an accelerating rate. Einstein is understood to have proposed the cosmological constant as a mechanism to obtain a solution of the gravitational field equation that would lead to a static universe, effectively using dark energy to balance gravity. In an interesting article by Manvendra Pratap Rajvanshi, Tuneer Chakraborty and J S Bagla on gravitational collapse, the cosmological constant is discussed along with an analysis of what

*DOI: https://doi.org/10.1007/s12045-019-0858-5

happens when dark energy is absent.

Globally, the effects of climate change include melting of glaciers, loss of biodiversity, extinction of species, and the spread of infectious diseases. Not being restricted to a single region, they pose a challenge globally. In a classroom note, Shashidhara shares with us the work of a team from IISER Pune that has developed teaching resources to integrate topics related to climate change inside the school and college curricula.

An article by Dilawar Singh on the brain's ability to remember; it explores a hypothesis that molecular switches may be behind our remarkable ability to remember for a lifetime.

Sushan Konar continues her discussion on the mathematics of music. In this second part, she discusses the development of the scale associated with western classical music; specifically, the origin of the heptatonic scale, starting from the Pythagorean scale and its transformation into the modern Equal Tempered Scale is described.

Continuing his fascinating series of articles, Raghavendra Gadagkar describes captivatingly how to design experiments in animal behaviour – this time under the title 'Why are male wasps lazy?'

Acharya Prafulla Chandra Ray who founded the Indian Chemical Society is said to have created history by pioneering teaching and research in modern chemistry in India. The Royal Society of Chemistry, London established an International Chemical Landmark Plaque on P C Ray in Presidency College, Kolkata. Sathyamurthy has reviewed a book published by the Indian Chemical Society on P C Ray by Animesh Chakravorty who has been writing on this topic over the years.

Dhruba Saikia conduced a face-to-face interview with Jayant Narlikar and it is fascinating and inspiring to learn about his experiences and read various anecdotes.