

# Editorial

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*S Mahadevan, Chief Editor*

Among all the contributions that India has made to human civilization, her contributions to the field of mathematics and astronomy are the most recognized and respected internationally. With such a rich cultural tradition, it is no wonder that we have had several outstanding mathematicians, the iconic Srinivasa Ramanujan being the prime example in recent times. The ability of the Indian mind to deal with abstract concepts has also contributed to our success in areas that involve the application of mathematics, such as computer sciences. Articles in this issue of *Resonance* deal with different aspects of mathematics and its applications in many fields including biology. In this issue, we also honour K G Ramanathan, a great mathematician and a builder of institutions. K G Ramanathan's wonderful article on Ramanujan is reproduced in the Classics section.



Email:  
mahi@mrdg.iisc.ernet.in

Mathematics pervades all disciplines of science. It is the language of the physical sciences. Its impact on biological sciences is enormous. Biologists are generally averse to quantitative thinking. It is this weakness that made the laws of heredity by Mendel obscure for three and a half decades after their proposal in 1865. All that is changing now. The inflow of mathematicians, physicists and engineers, eager to tackle problems in biology quantitatively, has enriched life sciences enormously. One area that has flourished as a result of this synergy is the field of Systems Biology that aims to view biology in a holistic way. The ability to mathematically model complex biological systems has made it possible to make specific predictions of outcomes and test these predictions experimentally. This is highlighted in the article by Karthik Raman and Nagasuma Chandra in this issue. The role of mathematics in science in general is highlighted in the penultimate article in the series on The Scientific Enterprise by V V Raman.

Despite the presence of several excellent centres for higher studies in mathematics, the status of school and undergraduate level mathematics education in the country is rather woeful in general. What is heartening in spite of this rather grim scenario is that there are several outstanding mathematics teachers, mostly unrecognized, who have nurtured and motivated the younger generation to take on the challenges offered by a career in mathematics. Our country owes these unsung heroes a lot for their inspired teaching and mentoring.

