

## Foreword

It is my pleasure to present these six articles as part of the commemorative volume of the Indian Academy of Sciences in its Platinum Jubilee year. These have been commissioned not based on any specific theme in mind. The idea was to invite a few leading scientists of the country to share their views on the current state of their area of research, both at the national and international levels. With the help of just these six articles, the readers may not get a picture of the biological research of today, but could appreciate the quality of the work being done in modern biological research and make some intelligent guess on what would it be like tomorrow.

From animal behaviour to macromolecular crystallography, all the articles bring out the importance of interdisciplinary approach required to push the frontiers of science. One can visualize the predicted outcome of such an approach in the article on systems biology. Here is a lesson to learn, while preparing ourselves to train the next generation of scientists. We should ensure that all

students learn physics, mathematics, biology and chemistry not as separate islands but as complementary components of science as a whole.

While the article on epigenetics would reveal how the basic paradigm of gene regulation is fast changing in the post-genome era, the article on a detailed study on one type of protein throws light on the amazing diversity in functions and thereby the physiology of organisms that evolution can throw up by varying the structure of a single protein.

Finally, the article on DNA computing – the icing on the cake – is a tribute to human intelligence that has converted an elegant and beautiful molecule into an information-processing tool!

On behalf of the Academy, I thank contributors of all the articles for the effort and time that they have devoted to make this compendium possible.

LS Shashidhara