Editorial

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Progress in science usually comes through hypotheses building and performing experiments to verify them. The pioneers of modern scientific developments in India and many who immediately followed them achieved remarkable success in a short span of time through their experimental investigations. After independence, there was considerable support towards science from the government and many new research centres were started where innovations were encouraged.

In contrast, we find today, perhaps due to easier availability of funds, very few researchers opting for building their own equipments but preferring to buy ready-made instruments. In this process, we lose out on the discovery potential of the experiments, since innovations made in custom-made instruments often provide an extra edge for new findings.

This has also led to loss of skill in the research institutes and universities across the country. It has a multiplier effect in the teaching institutions, where students do not see their teachers engaged in innovations. Nor do the practical sessions in our teaching institutions provide any stimulus for the students, as most of the teachers themselves lack the necessary experimental skills. This puts off bright students from taking up experimental research later.

There have been some efforts by individuals to develop innovative experiments for the classroom, but it will require a concerted effort from all to implement them in classrooms across the country to make the practical sessions interesting for the students.

The life and work of Shyamadas Chatterjee shows that it is possible to conduct research at the forefront, building your own instruments. It is remarkable to note how he successfully

pioneered research in several fields of study in the country with meagre resources. I hope that the readers will draw inspiration from his passion for science.

How a rare event sometimes changes the course of human history can be exemplified by the propagation of the blood disorder haemophilia from Queen Victoria across the royalty of Europe. Anindita Bhadra follows this intriguing trail and also explains the biology behind the disease in her article. In another article, Vaishali Verma describes the technique of split beta-lactamase complementation assay that is used for mapping protein interactions in a living cell and other potential applications.

Bagla and Sandhu, in their article, use a simple spherical collapse model to estimate characteristics of halos of galaxies and clusters of galaxies. Zurab Silagadze describes a simple and practical method of evaluating Riemann Zeta function that would appeal to mathematically-oriented children and adults alike.

Venkat Arun's article on multithreaded processors tells us how the performance of computers improved several-fold even though the speed of individual transistors has not increased for more than a decade. Many readers might have tried to work out the logic behind solving Sudoku puzzles. They would find the mathematical logic behind the Sudoku squares in the article by Sarkar and Sinha in this issue.