Editorial

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The Indian Academy of Sciences started the publication of *Resonance*, in January 1996. The first chief editor was N Mukunda. The journal grew under the enthusiastic leadership of its first and subsequent chief editors: V Rajaraman, M K Chandrashekaran and S Mahadevan. In 2006, the Academy entered into an agreement with Springer as a result of which *Resonance* is being co-published with Springer since January 2007. The international subscriptions to the journal are now processed by Springer while the Indian ones are processed by the Academy. Over the years, the journal has grown in visibility. During the last one year, on an average there were about 100 downloads per day from the Springer site of the journal. This works out to be around 40,000 downloads per year, which is sizeable, particularly when one remembers that this is in addition to the downloads from India, which are done at the Academy website. A look at the Springer website (http:/www.springer.com/education+%26+language science+education/journal/12045) shows that the most downloaded (326 times) article is by R Bhatia (p.87, January 2002) which gives six different proofs of the same fact: the products AB and BA of two matrices have the same eigenvalues. It seems safe to assume that the number of people interested in mathematics is less than the number in the sciences. Hence the article by Bhatia must have been of exceptional quality and interest. Interestingly, there are three chemistry articles among the top five most downloaded articles. They are: Medicinal uses of inorganic compounds–1 by B S Sekhon and L Gandhi (p.75, April 2006; downloaded 169 times), Addition of bromine to carbon-carbon double bonds by M V Kulkarni (p.69, September 1997; downloaded 157 times) and Chemistry of natural dyes by P S Vankar (p.73, October 2000; downloaded 144 times).

One of the readers of *Resonance*, Brij Gopal from Jaipur has brought to our attention the recent claim of room temperature

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superconductivity (see: http://www.superconductors.org/28c_rtsc.htm). If true, this will be a remarkable discovery, which will affect the lives of all of us. Unfortunately such reports usually have a history of not being experimentally reproducible. Let us hope that this will not happen to this particular report. This also brings to mind the recent claim that neutrinos travel with a velocity faster than that of light. This was first reported in September 2011 by a group known as Opera and confirmed again by the same set of authors in November (see the paper at LANL archive, http://arxiv.org/abs/1109.4897v2). If true, this will also be a remarkable discovery, but again, doubts have been cast over these results too. These reports should give some insight into the way scientists work and science progresses. Scientists should never be afraid of questioning conventional wisdom. Some mistakes are likely to be made in that process, but in the end, one always gets to the truth of the matter.

In this issue, an article by G Nagendrappa covers the life and times of the French chemist, Antoine Lavoisier. Lavoisier was the first to stress the importance of making accurate quantitative measurements in chemistry. The book by him entitled "Elements of Chemistry" which has been translated into English way back in 1789 is a classic and gives a lot of insight into his methods and thought processes. A chapter of this book is reprinted in the Classics Section of this issue and is a must read for anybody interested in the process of scientific analysis and discovery. This issue also has two interesting articles on quantum mechanics, which are of great interest; one on the Ehrenfast's theorem while the other compares the description of a system in classical mechanics with that in quantum mechanics.

S Mahadevan and his team have made significant contributions to the journal. I take this opportunity to thank all of them. A new team has taken charge from January 2012. It faces the daunting task of keeping up the high standards that have been built up over the past 16 years. I feel hopeful that we will be able to achieve it.