

Editorial

C S Yogananda, Editor

Many of us are familiar with the problem of two busy roads crossing each other, a potential place for accidents. An effective means of dealing with this problem is to build a flyover. A popular way of explaining the problem of Resolution of Singularities in algebraic geometry uses this as a figurative example of singularities and their resolution – the point where roads cross is a singularity and building a flyover is a way to resolve it! Whenever the problem of resolution of singularities is mentioned, three names come to mind immediately: Oscar Zariski, Shreeram Abhyankar and Heisuke Hironaka.



Email: yoga_sjce@yahoo.co.in

In this issue of *Resonance* we remember Shreeram Shankar Abhyankar (1930–2012), easily one of the leading algebraic geometers of the 20th century; he passed away on 2nd November, 2012. For his thesis he chose a problem which his teacher, Oscar Zariski, had tried, perhaps without much success. In fact, when Abhyankar told his teacher about his intent of taking up the problem of resolution of singularities of surfaces in characteristic p , Zariski warned him, saying, “I tried it myself. May be I didn't know enough about rings of characteristic p different from zero, but it is very difficult.” Abhyankar, however, persisted and finished his degree in just two years! He went on to extend many of Zariski's results to characteristic p . Abhyankar has given a graphic account of his work on this problem in an article in the *Bulletin of American Mathematical Society*. In the Classics section of this issue we are happy to reproduce portions relating to his thesis. You will get a glimpse of his wonderful story-telling; his lectures were apparently equally riveting (I was fortunate enough to hear a couple of them and so can personally bear this out!). You will also find an affectionate account of his life and work by his students/associates: Sudhir Ghorpade, Avinash Sathaye, Balwant Singh, Steven Dale Cutkosky and Rajendra Gurjar.

In the second part of the series ‘Challenges in the Quest for Clean Energies’, Sheela Ramasesha describes different ways of ‘making hay (read energy) while the sun shines’ and I may remark that the article is quite timely as the sun is bearing down on most of India!

There is the usual *Resonance* fare with something for everyone with the classroom section of this issue being fairly rich with selections from mathematics, biology and physics. Enjoy!

