

Editorial

N Mukunda, Chief Editor

Comparing machines against humans is a very common theme in much of the popular literature today. "Can machines think?" and "Are computers intelligent?" are questions that spring readily to mind these days. In this issue we tell our readers a little bit about the work of Alan Mathison Turing, among the first to make objective sense out of these subjective and anthropomorphically loaded enquiries. Vijay Chandru tells us about the 'Turing Test' while P S Thiagarajan writes on the 'Turing Machine' – each of these was a landmark achievement which brought clarity and fresh insight to their respective domains. On the way we learn something about algorithms, logic, computability, Hilbert, Godel, Post and Church. Then K S R Anjaneyulu describes the recent chess victory of Deep Blue over Gary Kasparov, what it really means and indicates for the future. We plan to follow up all this in our next issue with a more extended account of the Turing Test, and a review of "Enigma", the definitive biography of Turing.



Vani Brahmachari and V Balakrishnan complete their respective series 'Know your chromosomes' and 'What can the answer be?'. The former brings us up to date with current work on medical genetics, the human genome project, and the difficult ethical issues that arise in these areas. Balakrishnan presents the important idea of *transformation rules* for various physically important mathematical quantities under various groups of transformations. There is a conceptual leap here from *equations* to *transformations*, the subtlety of which is well captured in this quote from Paul Dirac:

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