

Homi Bhabha Award in Science Education - 2016, Public Talk

The Homi Bhabha Award in Science Education, instituted by the TIFR Endowment Fund, is given every alternate year to a current or ex staff member of TIFR for their work in science education.

The award for 2016 will be given to Dr. Vivek Monteiro for his outstanding contributions over several decades to science education.



About the speaker

Vivek Monteiro did his BSc Physics from Bombay University in 1968, Masters in Theoretical Physics from California Institute of Technology, Pasadena in 1970 and PhD from State University of New York, Stony Brook, USA in 1974. Dr. Monteiro was a visiting fellow in TIFR during 1975-77 in theoretical physics. His research interests included statistical mechanics, dynamical systems, and classical-quantum physics interface. Vivek has been an active member in several science movements abroad and in India. He is the Founder-advisor to *Navnirmiti*, a self reliant organisation devoted to universalizing good quality science and mathematics education. Over the years, *Navnirmiti* has innovated a number of learning toys and tools for science and maths, is developing a comprehensive pedagogy for universalizing school maths and science based on "learning by doing" and is currently involved in programmes for strengthening school maths and science in various states in India. Vivek has written numerous articles on STEM and STEM education which have been featured in leading newspapers, magazines and journals. Professionally, Vivek is a full time political worker and trade unionist and works extensively on issues of both organised sector and unorganised sector workers.

Talk by Dr. Monteiro

Role of science education in promoting scientific temper

The talk will begin with a definition of scientific temper as enunciated in the 1981 "Statement on Scientific Temper", which itself is based on a conception of 'the method of science'. Next the question of 'science, and its relation to method' is discussed as well as the mandate of Article 51 A of the Indian constitution: "*It shall be the duty of every citizen of India— to develop the scientific temper, humanism and the spirit of inquiry and reform*" along with the mandates of the Right to Education Act 2009, and the National Curriculum Framework 2005.

The implications of the above are examined for scientists in general, scientists who are Indian citizens, and Indian citizens in general, to arrive at a number of inescapable conclusions. Scientific temper is imperative for democracy, and we are required to take up the task of 'universalization of the scientific temper' as a scientific problem. The contemporary challenges to performing this task are discussed, and it is argued that the task in itself can be an effective response to these challenges. Universalisation of good quality science and maths education, which is now a legal mandate, can play an important role in universalizing scientific temper, along with equally important complementary efforts in other areas.

V. G. Kulkarni Auditorium

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4PM - 5.30PM