

PREFACE

Conference epiSTEME-4 is the fourth in a series of biennial conferences organised by the Homi Bhabha Centre for Science Education, a National Centre of the Tata Institute of Fundamental Research, Mumbai, India. The epiSTEME conferences bring together researchers in science, technology and mathematics education in an interdisciplinary exchange. Research presented in the epiSTEME conferences is inspired by cognitive, pedagogical, historical, philosophical and socio-cultural aspects of the sciences.

The name epiSTEME connotes, at one level, a systematic study of knowledge, while as an acronym it suggests a meta-view of science, technology and mathematics education. The previous epiSTEME conferences, held in 2004, 2007 and 2009, have catalysed collaborative programmes among researchers and educational practitioners in India and abroad. Within India, they have helped to initiate and foster linkages between theory, empirical research and the work of grassroots organisations.

Three broad strands of research that impact STME has formed the core of epiSTEME- 4 and themes were identified under each strand to reflect active research topics and areas of interest. These are:

Strand 1 – Historical, philosophical and socio-cultural studies of STME: implications for education (History and Philosophy of STME, Socio-cultural and gender issues in STME, Science and Technology Studies);

Strand 2 - Cognitive and affective studies of STME (Visuo-spatial thinking, Knowledge representation, Language and learning, Problem solving); and

Strand 3 – Curriculum and pedagogical studies in STME (Assessment and evaluation, Role of ICT in teaching-learning, Classroom discourse, Affective aspects of learning, Professional development of teachers, Educational initiatives and innovations).

Leading scholars from Asia, Africa, America and Europe present overviews of some of the themes within each strand. There are 10 review talks addressing the research areas of STME. In addition, there are paper and poster sessions along with a few pre and post conference workshops. The epiSTEME 4 conference received over 100 submissions and each paper was sent to 3 reviewers for blind review. We take this opportunity to thank all the 75 reviewers for their role in the peer review process of epiSTEME-4. The conference submissions had an acceptance rate of 75 percent. Of the accepted papers there are 44 oral presentations and 22 poster presentations. The participants to epiSTEME 4 come from about 20 countries, besides India. These include Australia, Canada, Egypt, Ethiopia, Israel, Japan, Lebanon, Malawi, Mauritius, the Netherlands, Nigeria, Philippines, Romania, Rwanda, Singapore, South Africa, Sri Lanka, Trinidad, UK and USA.

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Editors

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