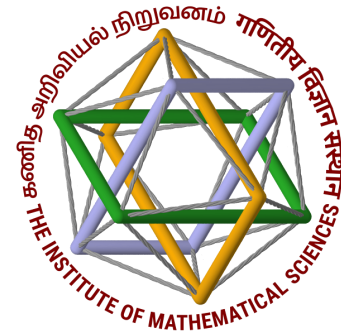


The Institute of Mathematical Sciences, Chennai



Quarterly Report

January - March 2020



Highlights: research and events

Public Lecture: Logic for non-persons?: (7th Jan 2020)

By Rohit Parikh, City University of New York, USA

A public lecture on logic and reasoning in babies, animals and groups was organised at the institute. The talk focussed on two themes:

1. To what extent is the reasoning of animals and children logical? What do they think?
2. To what extent can we regard groups: corporations, or political parties, etc. as individuals to whom we can assign goals and beliefs? In other words, how far can we extend the notion of an individual?

For the first part, the speaker referred to experiments in animal behavior and what we know about the thinking of animals and children. For the second part, he spoke about issues in game theory and in states of knowledge, and subsequent coordinated action arising from communication.

Science at the Sabha: (16th Feb 2020)

Talks on science for the general public at The Music Academy



Science at the Sabha, IMSc's annual flagship outreach program, was held as usual at the Madras Music Academy on Sunday, 16th February. The program, which is free and open to all features talks aimed at anyone with an interest in science, irrespective of age or background. The program this year the program also featured a poster exhibition: ``Deep History Sites of

the Indian Subcontinent" highlighting some important prehistoric sites in the Indian subcontinent. It attracted around 1000 people and was extensively covered in the press and media.

Organizers: Rahul Siddharthan, Varuni P, S. Viswanath

Speakers: Shannon Olsson (NCBS), Harinath Chakrapani (IISER Pune), V Madhurima (CUTN), R. Ramanujam (IMSc)

[Photos: <https://ekalavya.imsc.res.in/node/3897>, <https://ekalavya.imsc.res.in/node/3898>]



Public Lecture: The Cryosphere and Climate of the Earth: (22nd Feb 2020)

By R. Shankar, IMSc

This lecture, addressing issues of climate change was co-organized with the *Tamil Nadu Science Forum* as a part of its Popular Science Lecture series (PSL-17).

The ice on earth, the cryosphere, is inextricably tied up with the climate of the earth. It affects and is affected by life on earth. This talk addressed this aspect along with several related questions. The main themes of the talk were: What caused the ice ages ? How did they affect the sea level ? Why is this interplay of great concern today ? What is the evidence that the climate is changing at an "unnaturally" fast rate today ? Closer home, what is the role of the ice in the Himalaya in the water cycle ? How will the current rapid rate of climate change affect the flow of the rivers of North India ? How will it affect the sea level ? What will be the effect of the sea level rise on coastal regions like Chennai ?

Honours and Awards:

Prof. Amritanshu Prasad and Prof. Saket Saurabh have been elected as fellows of the Indian Academy of Sciences.

Prof. Gautam I. Menon has been elected as fellow of the National Academy of Sciences, Allahabad.