

# Rajju Ganit workshop

**Dates:** 25-27 June 2018

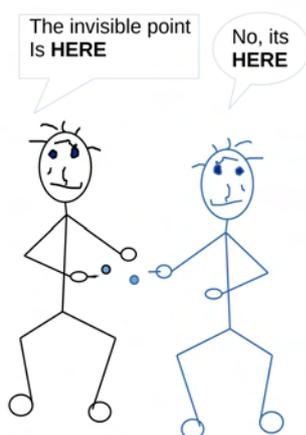
**Venue:** Gyanodaya Mahavidyalaya, MIG Colony, Indore

**Conducted by:** C. K. Raju, Honorary Professor, Indian Institute of Education, Mumbai University Kalina Campus

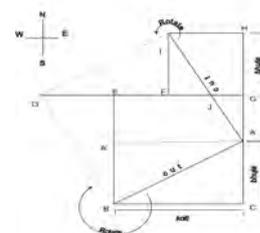
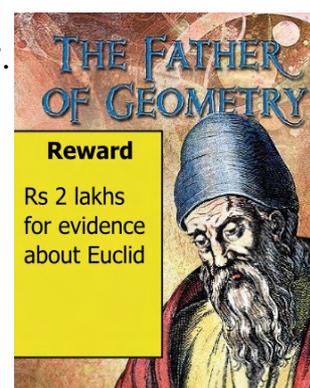
## What will you learn?

Aspects of school geometry you never thought about, such as:

- **Invisible points.** The NCERT class VI text says geometric points are invisible. How do you measure the distance between two invisible points?



- **Euclid challenge prize.** The NCERT class IX text has a chapter on “Euclid’s geometry”. Is there any evidence that Euclid actually existed? There is a reward of Rs 2 lakhs for the evidence.
- **The “Pythagorean theorem”.** Could the Egyptians and Maya have built pyramids without knowing the “Pythagorean theorem”? Is the “Pythagorean theorem” found in the *sulba sutra*-s? Is it the same as the one you teach in school?



- **Five kinds of geometry.** What is **Hilbert’s synthetic geometry**? What is **Birkhoff’s metric geometry**? How do these relate to “**Euclid’s**” **geometry**? Are they compatible with each other? or with **compass-box geometry**? Why does our school text mix up all four?
- **Test the best.** Are these four inferior or superior to **rajju ganit** traditionally taught in India?
- **Measuring the earth.** What is a radian? How to calculate  $\pi$ ? How to measure the height of a mountain? The size of the earth? Your latitude and longitude? Do all this with **rajju ganit**.
- **Geometry and religion.** Plato related geometry to religious beliefs, as did the church. Colonial education was church education, and taught us to relate geometry to reason. *Which* reason? Normal reason or the metaphysical reason used by the church? Which is better?
- ... and more

## Prerequisite

Participants must be school teachers/trainees willing to apply their workshop training to test a new way to teach geometry (Rajju Ganit) at class IX level using a draft text.

## Earlier workshops

The Rajju-Ganit project is supported by the Hemendra Kothari Foundation, Mumbai, and its allied institutions. Earlier workshops were conducted at Nasik, Chamrajnagar, and Gundulupete.



## About C. K. Raju

Professor C. K. Raju holds a PhD from the Indian Statistical Institute, Kolkata, preceded by an MSc in math from Mumbai. He played a key role in building India's first parallel supercomputer, the C-DAC Param.

He has long been a Professor of mathematics and computer science in various universities in India and abroad. An internationally renowned scholar, he has lectured on six continents (Google to see videos of his recent lectures in [Durban](#), [Cape Town](#), [Berlin](#), [Amsterdam](#), [Pretoria](#), [MIT](#), [Lima](#), [Indian Institute of Science](#), [Tehran](#), [Universiti Sains Malaysia](#) etc.)

**He has put forward several revolutionary ideas in his critically acclaimed [books and articles](#).** In his book [Time: Towards a Consistent Theory](#) (Kluwer/Springer, 1994), he corrected Einstein's mathematical mistake, for which he later [received the TGA Award in Hungary, in 2010](#). His forthcoming sequel on *Functional Differential Equations* explains how to use them to correct also Newtonian gravitation. In [Cultural Foundations of Mathematics](#) (Pearson Longman, 2007), he amassed evidence that calculus originated in India, in the 5<sup>th</sup> c., and was stolen by Cochin-based Jesuits in the 16<sup>th</sup> c., and later falsely attributed to Newton and Leibniz. In [The Eleven Pictures of Time](#) (Sage, 2003) he related science to religion across the interface of time. In [Euclid and Jesus](#) (Multiversity, 2012) he explained the religious roots of Western (formal) mathematics.



Kapila Vatsyayan, MP and Yash Pal ex-chair, UGC, releasing "Eleven Pictures of Time"



With Dr APJ Abdul Kalam "Is Science Western in Origin?"



TGA Award, Hungary



Fellowship, Institute of Complex Thought, Lima



With the Dalai Lama, explaining difficulties with "Pythagorean theorem"



M. P. Ratna award