

TIFR PUBLIC LECTURE

KNOTS, CURVED UNIVERSES, AND HARD PROBLEMS

by **Martin Bridson FRS**

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President, Clay Mathematics Institute

If you ask “how many...”, the answer should be a number. If you ask “what sort of symmetry...” the answer should be a group. Groups are the mathematical objects that describe symmetry wherever it is found; they often provide a bridge to pass from one mathematical or scientific context to another. In this talk, they will appear as we pass from the problem of deciding when two knotted pieces of string are the same to the problem of listing all possible models of 3-dimensional space and space-time. Along the way, we will consider what it means for a problem to be “hard” or even “unsolvable”, as we roam through flat earths and curved universes.

Prof. Martin Bridson is the Whitehead Professor of Pure Mathematics at the University of Oxford, where he is a Fellow of Magdalen College. He is also the President of the Clay Mathematics Institute, which makes him the guardian of the \$1M Millennium Prizes.

Prof. Bridson’s research interests lie at the interface of geometry, topology, and group theory. Diverse encapsulations of symmetry, quantifications of complexity, and notions of curvature provide unifying themes for much of his work. He is a Fellow of the Royal Society, the American Mathematical Society, and the Academy of Europe.



LIVE WEBCAST

Wednesday
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5:00 PM

Homi Bhabha Auditorium
TIFR Main campus, Colaba



**ADMISSION IS FREE
AND OPEN TO ALL.**

Visitors are required to carry a photo ID.

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