Abstract: String theory (otherwise known as the “Theory of Everything”) is a theory of strings that attempts to unify the fundamental theories of physics including General Relativity, Quantum Theory and Electromagnetism. String Theory has peculiar symmetries called dualities, and my goal in this non-mathematical talk is to try to give a flavour of these dualities via examples. Before getting to String Theory, I will also give a leisurely historical introduction to these theories.

About the speaker: Mathai Varghese received his Ph.D. in Mathematics from the Massachusetts Institute of Technology in 1986. He is the Sir Thomas Elder Professor of Mathematics at the University of Adelaide, Australia, and is a Fellow of the Australian Academy of Science.

His research is mainly focussed on Geometric Analysis and Mathematical Physics. He is internationally renowned for the Mathai-Quillen formalism in topological field theories, for his work on the Atiyah-Singer index theory and for T-duality in String Theory in a background flux.