



A GLOBAL PLATFORM FOR RESEARCHERS

Materials Research Symposium (MRS) Kochi, an initiative of MRL, SH College provides a global platform for budding researchers and scientists to interact with their peers and share their research findings.

Speaker:  
**Dr. Anto Lonappan**

Scientist,  
University of California,  
San Diego, USA



Dr. Anto Lonappan is an accomplished astrophysicist with a distinguished academic and research background. He completed his BSc and MSc from SB College, followed by research on Dark Energy Models at the Center for Theoretical Physics, JMI, New Delhi. As a DST JRF at Presidency University, Kolkata, he studied Supermassive Black Holes. Dr. Anto earned his PhD from SISSA, Trieste, Italy, focusing on the detection of Inflationary Gravitational Waves. His postdoctoral work at the University of Rome, Tor Vergata, focused on the gravitational lensing of CMB and improving the sensitivity of the detection of inflationary signals. At UCSD, he is working on the detection of Cosmic Birefringence.

Materials Research Laboratory

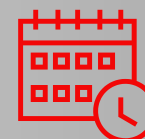
Department of Physics

Sacred Heart College, Thevara, Kochi-682013, India

Materials Research Symposium

Talk 5:  
Webinar on

"From Big Bang to Bolometers"  
The hunt for the primordial gravitational wave



8th August 2024  
10:30 am (IST)

[Click here to join](#)

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ABSTRACT



Best wishes,

Dr. Roby Cherian  
HoD, Dept. of Physics

Dr. Biju C S  
Principal

## **Abstract**

In the last century, significant discoveries were made about the Universe, including Cosmic Microwave Background (CMB), dark energy, and dark matter, which fundamentally altered our understanding of the cosmos. This presentation will focus on the Cosmic Microwave Background, specifically how the inflationary phase during the Big Bang gave rise to the Universe's structures. Detecting direct evidence of inflation using CMB is the primary goal of current and upcoming experiments. The B-modes generated by the Inflationary Gravitational wave in CMB polarization are considered the smoking gun of inflation, and detecting them poses significant challenges, which will also be discussed in the talk.