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# The Fast Radio Burst Phenomenon (Invited Review Talk)

*Thursday 2 April 2020 10:30 (30 minutes)*

FRBs are currently one of the biggest unsolved and most tantalizing enigmas of astrophysics. They manifest themselves as millisecond duration pulses at cosmological distances. Over 100 FRBs have been discovered to date with a remarkable diversity of observed properties, but no consensus has emerged regarding the nature of their progenitor(s). Almost every radio telescope in the world is currently undertaking large-area surveys at radio frequencies ranging from 100 MHz up to tens of GHz to discover, study and understand these bursts. With the development of new instrumentation and software, we have now reached a point where radical changes in the field occur on timescales of a few months or so. As a result, the quest to answer the fundamental questions of their enigmatic nature, progenitors, environments, spatial distribution and their potential for use as cosmological probes is gaining enormous momentum. If FRBs are detectable in follow up multi-wavelength/multi-messenger observations, it will be the most straightforward way to answer the question of their origin. In my talk, I will present an overview of the field and various studies and experiments conducted till date to study FRBs, and also address the lessons learned.

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