

# School of Physics and Astronomy

## COLLOQUIUM

### Hunting for primordial gravitational waves



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In this talk I describe possible implications, for early universe cosmology, of the detection of a stochastic primordial gravitational waves (PGW) background. I discuss the prospects for constraining a compelling new class of early universe scenarios known as axion-gauge field inflation. The PGW spectrum originating from these set-ups has strikingly different features with respect to those from the minimal inflationary scenario. I elaborate in particular on B-mode observations and interferometers tests. I will then introduce tensor fossils: these are intriguing gravitational waves imprints on the large scale structure, potentially detectable by upcoming surveys, with important implications for inflation. The existence of these models calls for a precise characterization of the primordial gravitational waves signal: in order to fully exploit the potential of PGW for the discovery of new physics, we must clearly identify their sources.

Date: Wednesday 2 October 2019

Time: 2pm

Venue: L1, Seminar Room 107, 10 College Walk, Clayton

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