

Approximate Bayesian Computation and novel Bayesian approaches in cosmostatistics

Contribution ID: 1

Type: **not specified**

Bayesian inference with black-box cosmological models

Friday, September 20, 2019 10:15 AM (1 hour)

Large-scale astronomical surveys carry opportunities for testing physical theories about the origin and evolution of the Universe. Advancing the research frontier requires solving challenging and unique statistical problems, to unlock the information content of massive and complex data streams. In this talk, I will present recent methodological advances, aiming at fitting cosmological data with “black-box” numerical models. I will discuss two different solutions, depending on the scenario: Bayesian optimisation (BOLFI) and Taylor-expansion of the simulator (SELI).

References:

<http://arxiv.org/abs/1805.07152>

<http://arxiv.org/abs/1902.10149>

Presenter: Dr LECLERCQ, Florent (Imperial Centre for Inference and Cosmology, London)