

# Coalescing black holes in the cosmic landscape (INVITED)

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The majestic discovery of the first source of high frequency gravitational waves, GW150914, and of four companion sources by the LIGO and Virgo Collaboration herald the birth of a new era of exploration of the Universe. In this context, I review our current understanding on the formation of stellar black holes, and their impact on fundamental physics.

I then move into the low frequency gravitational wave domain and describe the prospective sources for LISA, the space mission that will uncover for the first time massive coalescing binary black holes.

LISA will tell us about the formation of massive black holes from seeds and how they later evolve in concordance with the assembly of galactic structures. There is a close link between the high and low frequency gravitational wave universe that I will describe in my closing remarks.

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