

The rare stellar marriages that live happily ever after and merge as binary black holes

Selma De Mink¹

¹*University Of Amsterdam, Amsterdam, Netherlands*

Massive stars are nearly always found in close pairs when they are young. A very small fraction of these pairs stay together throughout their turbulent lives. They end their lives as double black hole binaries. Their orbit slowly decays until, eventually, they coalesce. These mergers giving rise to such strong bursts of gravitational wave emission that they can be detected directly at earth. The gravitational wave detector LIGO detected such events directly. In this talk I will focus on the extreme progenitors stars that we think gave rise to LIGO's black holes and discuss what we are learning about the lives and deaths of the most massive stars.