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**Interplaying analytical and numerical relativity in modeling binary black hole coalescences**

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The coalescence of two black holes is one of the most energetic events in the Universe, emitting 2-8% of the initial rest-mass energy in gravitational waves. I will review how recent work at the interface between analytical and numerical relativity is improving our understanding of the binary black hole dynamics and gravitational-wave emission throughout inspiral, merger and ringdown phases. I will discuss the implications of those results in the search for gravitational-waves with ground and space based detectors, and in astrophysics, notably for the distribution of recoil velocities from merging black holes.