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The dawn of gravitational wave astronomy and the multimessenger Universe

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The detection of gravitational waves from the coalescence of binary black hole systems marked the birth of gravitational wave astronomy and opened a new chapter in the multimessenger investigation of the Universe. Among gravitational wave sources, mergers of compact objects with at least one neutron star are thought to be associated with electromagnetic transient phenomena (e.g. short Gamma Ray Bursts). Simultaneous observations of gravitational interferometers and ground-based or space telescopes will thus provide an unique opportunity to find the electromagnetic counterparts of these gravitational wave sources. The talk will discuss the latest results on gravitational wave searches, describe the electromagnetic follow-up campaigns, and highlight prospects and challenges of multimessenger observations.

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